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The great American stomach of 1944

DESPITE ALARUMS and excursions, despite many dire prophesies of starvation, food riots, and plagues, it now appears certain that the great American stomach will not have to shrink timidly away from the table in 1944. The Food Fights for Freedom program—which got under way in November last and will probably outlast the war—is proving a success too.

The year 1943 was a good one for food production—better than we hoped for, better even than 1942, a banner year in its own right.

We go into 1944 with large supplies of food already in the bag, thanks to the farmers and USDA field representatives. In spite of a late spring and floods and drought, in spite of worn machinery and shortages of labor and of feed, they gave us enough of the crops with high food value to carry us safely into the third year of war.

There are plenty of white potatoes still in storage, part of that record-breaking crop of 460 million bushels grown in 1943. They are expected to last till about May, when the new crop comes in. Sweetpotatoes also are in fair supply.

There's enough citrus fruit to carry us through to the new crop year, which begins in the fall. The civilian's share of the orange crop is roughly 10 percent higher than last year. The demand is thirstier, too, but we've a good crop of grapefruit, with plenty of juice in cans, and a record crop of lemons to help us hit high vitamin C.

Protein supply

Look for today's good supply of pork to hold through the first few months of 1944, and ample quantities of other protein foods such as dried beans, dried peas, peanut butter, and soy flour. Beef is in fairly good supply now, but will go down in the second quarter of the year. In the summer, the beef situation should ease and be above average in the fall, since we are going into the new year with 2 million more head of beef cattle than a year ago.

Hens promise another 60-billion-egg year. With a greater slaughter of chickens from laying flocks proposed to ease the feed situation, supplies of chicken meat should be about the same as the all-time high in 1943.

The cereal situation is good, except for corn meal and grits and rice. The rice crop gave us more than enough to meet our normal consumption rate, but the shortage of corn grits has increased demand pressure in southern regions. These commodities will continue scarce. But wheat products such as bread and macaroni, fortified with vitamins and minerals, will be plentiful.

Milk production is the great war problem. There are more dairy cows on farms than ever before, but production per cow is down, since cows must compete with the record numbers of other livestock for high protein feeds. Our 1944 milk supply will probably be 1½ billion quarts below the 1943 production, or 57½ billion as compared to 59 billion.

People are drinking more milk, so fluid milk consumption will continue to be pegged at the June 1943 level through the dealer quota system. Adults should, when necessary, drink less whole milk to save more for children. All skim milk available for human food should be so used. Butter is tight, and will continue to be so: cheese supplies for civilians will be under what they were last year.

Fruits and vegetables

For fresh fruits and vegetables, people will have to rely heavily on victory gardens. Increased commercial production of the essential vegetables are asked, but it is doubtful whether the high production needed can be attained. The more food home gardeners can process, the better, too,

INTERAGENCY *food committees such as the one pictured above have been charged with wartime needs and allotments of food for domestic and foreign consumption. The Food Requirements and Allocations Committee, more recently established (October 29, 1943), represents the FPA, FDA Civilian Food Requirements Branch, War, Navy, Office of Foreign Economic Administration, and War Shipping Administration. Roy F. Hendrickson, right front, is chairman.*

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because this year's commercial pack is down.

The vegetable pack for 1943 is 6 percent below the pack for 1942, with the biggest drop in canned tomatoes due to the drought in the East. However, with the recent release of various canned items from Government stocks, supplies should be fairly good in the spring months, with the pinch of the scarcity due in the fall.

The fruit pack for 1943 (exclusive of juices) is 21 percent lower than for 1942. The fruit juice pack is up 29 percent, but the Army will take most of it except grapefruit.

In brief

Looking at the picture at a glance, it shapes up this way. We'll continue to have an abundant supply of cereals and as much chicken, eggs, potatoes, dry beans, and peas as in 1943 and, we hope, fresh fruits and vegetables. Food fats and oils will stay at about the ration level of recent months. Canned fruits and vegetables are expected to be in shorter civilian supply, also dairy products and red meats except pork.

Summing up, the outlook for 1944 is good. Farmers are getting set to give us crops as large as, or larger than, last year. But military needs will stay the same, or grow; and relief shipments of foods will increase, as more Axis-held territories are liberated. Also, civilian demand for food will be as great as, or greater than, last year. So, even though there will be enough food around, it won't always look like a lot. That's why a good New Year's resolution is the Food Fights for Freedom slogan: Produce and Conserve, Share and Play Square.

OWI HAS SHIPPED FCA War Circular No. 1, Dehydration of Fruits and Vegetables by Farmers' Cooperative Associations, to its seven libraries located at strategic points around the world. It has been in demand in Palestine and other foreign lands where plants have been built which are now operating to supply the fighting forces with vegetables locally grown and dehydrated. In the U. S. there are continuing requests from trainees in cooks' and bakers' schools where the circular apparently is "required reading." Copies of many other FCA publications are being sent through the Washington office of OWI for world-wide distribution.

Businesslike lab

A RECENT visit disclosed that the Northern Regional Research Laboratory of BAIC, (*USDA*, September 18) is an impressive, businesslike, U-shaped building, architecturally attractive in a functional way, on the outskirts of Peoria, Ill., containing 80 fully equipped laboratories and a large pilot plant where tests can be made on a commercial scale of operation, and manned by some 250 scientific and other employees. The laboratory is neat and workmanlike within and everybody is busy.

The various divisions of the laboratory work on agricultural motor fuels, agricultural wastes or residues, starch and dextrose, oils and proteins, molds, ferments and microbiology in general, commodity and engineering development, and in the field of analytical and physical chemistry. The commodities with which the laboratory is primarily concerned are wheat, corn, soybeans, and agricultural residues.

Penicillin headquarters

It was in the Fermentation Division here that the yield of penicillin was increased a hundredfold. This accomplishment alone, evaluated in terms of human life, probably surpasses in value the entire cost of setting up and operating the laboratory to date. In this Division also is the largest collection of nonpathogenic but industrially valuable yeasts, molds, bacteria, and other microorganisms in the U. S., if not in the world.

This Division still acts as scientific headquarters for the entire penicillin industry of the Nation. Fifteen persons work on penicillin full-time; all mold used in making the drug is sent from here; the laboratories make control tests of all lots of penicillin produced.

Corncobs go to war

The recent discovery of the Agricultural Residues Division that corncobs could be used to "sandblast" carbon out of airplane engines (*USDA*, December 11) came about in a curious way. The Navy was using hominy grits for the purpose, but that bit into food supplies, for they were required by the thousands of bushels. So the laboratory tried grinding corncobs, peanut shells, and rice hulls as a substitute.

The rice hulls proved abrasive enough to scratch steel because they contain so much silica, but the peanut shells were satisfactory and the corncobs excellent. Particle size must be right to pass the airgun and the material must not pulverize so much on contact as to prevent re-use. What is more, a wide new outlet for agricultural wastes opened.

These wastes occur in wide variety and on grinding have different degrees of softness and hardness. Hence it is easy to tailor a material for polishing and cleaning surfaces, valves, and engines where slight accumulations of deposit throw off precision. Some of these agents will be admirable for the newer alloys, many of which are quite soft.

Norepol to Norelac

The Oil and Protein Division works on the commercial isolation of proteins from various sources and on protein fractions, components, and their derivatives. It seeks to develop uses for these materials. When the expected excess of soybean oil—for which Norepol, the rubber substitute, was to be an outlet—failed to develop, chemists here got busy and produced the film-coating resin they named Norelac. It promises to become valuable in making containers for anything requiring moistureproof packaging. Industrial firms are cooperating now.

Sometimes processes are actually tailored to fit certain idle equipment. Thus a wheat-syrup and wheat-starch process developed by the Laboratory is now being used by a sugar-beet mill that was formerly idle.

In normal times no processes are turned loose until free from both technical and economic bugs, for methods must both work functionally and be feasible financially. As a wartime emergency, important projects under way are explained to representatives of industry at periodic conferences to speed up processing while many products take precedence over money profits.

Practical results

The Engineering and Research Development Division is particularly interesting as it takes laboratory theory out into the plant, using, if possible, conventional equipment that can be ordered from catalogues. Here costs

must be considered after the chemists and chemical engineers have proved that processes will work technologically. This Division seeks to make industrially usable and economically valuable the chemically workable processes developed in the laboratories.

This involves continuous in lieu of batch operation, the element of heat transfer in large bulks, general economic surveys, the investigation of raw material supplies, possible markets, and the labor and equipment required. Take heat transfer alone: It is one thing to heat a quart of water from room temperature to 95° F. over a gas flame, forgetting costs, and quite another to transfer heat to thousands of gallons economically, efficiently, and in continuous operation.

The entire laboratory creates a most favorable impression. Its Director, H. T. Herrick (see cut), his able assistants, and their subordinates have a contagious enthusiasm and an air of quiet self-confidence and of knowing just what they are about. At the moment, the dividends this single Laboratory, one of four, is paying on the investment of the American people cannot be calculated. But it is a safe guess these will ultimately equal the 500 percent not uncommonly yielded by USDA research in other fields.

Headed by I. T. Haig, Chief, FS Division of Forest Management Research, several FS men have gone to Chile to study forest resources there, with the Corporación de Fomento de Producción, a Chilean Government agency.

Real forest service

Did you know that the strength and specific gravity of wood from a tree varied as you run up the trunk from the ground? Did you know that unless paint was of a particular composition and quality it would not act protectively on certain woods? The Forest Products Laboratory at Madison, Wis., knows these things and a great deal more as a result of its researches on wood, its products, and byproducts. It is part of FS.

The growth and strength properties of wood are affected not only by height above the ground but by such factors as drought, floods, irrigation, summer, winter, and so on. Nor is any piece of wood from any tree the same throughout as any other piece from another part of the same tree. Certain general principles rule, however, and research has discovered them, enabling industry to make the best use of wood.

It's stuck

Then there is laminated wood, a product made by sticking together small pieces of woods of inferior quality with specially developed adhesives, so that they can be used as timbers in the roof arches of buildings, in airplanes, and for other purposes, where good strength properties are essential. Wood-resin combinations, like "impreg" and "compreg," and paper plastics have been developed, which have little or no resemblance to wood or paper, and are hard, moisture-resistant, difficult to scratch, and take a high polish.

The composition and utility of a wide variety of glues and adhesives, capable of producing joints in wood that are usually stronger than the wood itself, have been investigated. New glues have recently appeared in a steady stream and the laboratory has had to undertake extensive tests of their strength and properties to keep abreast of things.

Tailored containers

In a specially equipped Matériel Containers Division, crates and boxes are especially devised for packaging shipments so as to use materials economically, to replace metal with wood where possible, to provide sufficient strength and protection, and to save shipping space. Here containers are tailored to fit a wide variety of delicate or ponderous objects, apparatus, matériel, ordnance, firearms, torpedoes, and so on. These containers are tested in special machines to simulate actual conditions of rough handling in use.

Research has practically all been redirected to war purposes, but many peacetime discoveries and developments find new uses. Investigation of bag molding, wood bending, timber mechanics, timber physics, and derived wood products, continues unabated. Large classes of Army and Navy men, and manufacturers' representatives are also being trained as airplane inspectors and in the techniques of container design. The Laboratory now employs about 700 and is almost a young university.

Personnel policies

Policies on handling problems created by the more than 13,300 persons on military furlough, the civilians who have transferred to other agencies with re-employment rights, and the war service appointees were considered by personnel officers at a recent meeting at St. Louis.

The legal and moral obligations to those on furlough to the armed forces were probed and plans made to return them to positions in the Department and WFA as promptly and easily as possible after their release. Policies relating to civilians who have re-employment rights because of transfers to other war agencies were considered and recommendations made for strict compliance with these rights. It was recommended that present terminal provisions of war service appointments be extended to cover the transition period.

Delegations of authorities to increase efficiency and speed up action have been made and are to be extended as a result of plans developed at the meeting. Many recommendations are applicable to internal processes in personnel work. Others affecting employees will be discussed with employee groups.

A full report of the meeting is in the hands of principal administrators, bureau chiefs, and personnel officers in bureaus and regional offices. Information on various phases will be released as discussions are held and the time for applying the policies arrives.—T. Roy Reid, *Director of Personnel.*

What are you doing in your daily work to conserve paper?

Three more bureaucrats

It probably never occurred to you, much less to the average American, that we should have many more food scarcities had it not been for three Department scientists of the Gay Nineties. One of these men argued to beat the cars; one looked at a tree; one looked at a cotton plant. As a result of that, nearly every food and fiber crop you can name is much more abundant today than it would otherwise have been.

These three men were research workers but, of course, they were also bureaucrats, for they worked in the Department, which was a bureaucratic organization even in those days. True, there was no BPISAE nor even a BPI then, but there was a Division of Vegetable Physiology and Pathology, which became part of BPI when it was created in 1901.

This division began life as a Section of Mycology in the Division of Botany in 1886. It became a full-fledged division in 1890. Erwin F. Smith joined up with F. Lamson-Scribner, chief of the Division, in September 1886. He was the man who argued.

Of course, he did lots of fundamental research on fungus and virus diseases of plants. In fact, he it was who initially called attention to the strong resemblance between crown gall of plants and human cancer. But he was especially struck with the finding of T. J. Burrill, of the University of Illinois, corroborated by J. C. Arthur, of the New York (Geneva) Agricultural Experiment Station, that bacteria could cause plant disease.

Smith argued

That was a novel and heterodox idea in those days. A lot of people, including a very smart German named Fischer, said it was just downright silly. Formerly plant diseases had been regarded as an act of Providence and there was very little you could do about them but pray. However, their inroads became so disastrous to farmers that they said the Department just must do something about them. The Department did.

Smith decided that bacteria caused a good many plant diseases hitherto attributed to fungi or to the malignance of Providence. Despite all opposition he pounded away in laboratory and in print. In a particularly famous and rather violent polemic he simply argued Alfred Fischer to cover. His work on bacterial plant diseases began in 1893, and by 1901 he had firmly established the new science.

Don't think it isn't important to establish a truth already happened upon by someone else. The man who, like Darwin, undertakes the arduous drudgery of putting over a theory someone else has already flashed out intuitively, but lacks drive to put over, deserves all the thanks in the world. This kindly old gentleman, who in later life sat in a cluttered room in the basement of the West Wing of the Administration Building, has us all deeply in his debt.

Waite saw a pear tree

Meanwhile the question rose: How could plant and tree diseases spread as rapidly as they often did? This brings us to the man who looked at a pear tree as he came down to work, M. B. Waite. He had joined the staff in 1888 and was assigned to pear blight, a disease then devastating the pear orchards of the eastern United States. In 1878 the same Burrill mentioned above had found this disease to be caused by a bacterium to which he gave an impressive if not tasteful name.

What puzzled Waite was how a pear tree could have but one or two blighted blossoms one day and be blighted all over the very next. Then he remembered honeybees busily going from blossom to blossom, wiping their feet over everything, indiscriminately carrying . . .

Why, of course—they spread the bacteria! He examined some of them and found the pear blight bacteria on their mouth parts. He produced pear blight from these germs by inoculation. Insects could spread bacterial plant diseases. Enter the insect vector.

Again, some did not believe Waite. One crotchety old physician over on the Eastern shore of Maryland dared him to bring on the bees and try to blight doc's fine orchard by his fool methods. Waite took his dare. This finally made the doctor very unhappy, for his orchard was soon badly blighted. Waite, like Smith, was right, and he could prove it.

Orton saw a cotton plant

Meanwhile, William Allen Orton, a gangling New England youth, fresh from college, joined Smith's staff. He was assigned to cotton wilt. This disease, caused by a fungus, was entirely destroying the cotton crop in large sections of the South. Orton had never seen a cotton plant in his life, so he went down South and looked at one. He was very much impressed by what he saw in a cotton field.

For he immediately observed that certain cotton plants for some reason did not contract wilt. They were resistant. He hazarded the guess that their resistance might be hereditary. If you like good rewarding reading, hunt up old Bulletin 27 of the Division of Vegetable Physiology and Pathology, entitled "Wilt Disease of Cotton and Its Control," and find the rest of the story. This bulletin by Orton appeared in 1900. Orton was right.

Add them together

Now we have a combination of scientific knowledge that was destined to be worth millions upon millions of dollars to American growers: (1) Bacteria can cause plant disease; (2) insects can spread the bacteria and the diseases; (3) some plants resist diseases caused by bacteria and fungi and, from them, resistant strains or lines can be bred. Of course this pioneer work was elaborated in thousands of experiments on hundreds of different plants by dozens and dozens of scientists who followed Smith, Waite, and Orton.

But the end product of it all these wartime days is that our crops are not hard smitten with diseases as they used to be. Methods of prevention and control have been worked out. Breeding for resistance is done with scientific precision. The entomologists have new insecticides to cope with the marauding insects which also spread disease.

In an address delivered in 1936, G. H. Coons, also a Department scientist, sought to estimate the annual value to farmers of disease-resistant varieties of the following crops only: Corn, wheat, oats, barley, flaxseed, beans, sugarcane, sugar beets, asparagus, cabbage, cantaloupe, celery, sweet corn, lettuce, peas, spinach, and tomatoes. He calculated that from $65,000,000 to $70,000,000 *a year* is saved by growers, due to their having resistant varieties.

It's worth money

This huge annual addition to farm wealth stemmed largely from research by Department scientists. It

is many times the annual cost of running the entire Department in the days of Smith, Waite, and Orton. Current bureaucrat Dr. E. W. Brandes has estimated that the improved plant materials issued by his own Division of Sugar Plant Investigations alone have conserved capital and augmented the national wealth by nearly a billion dollars. We will go into that in detail sometime.

In fact, we could go on and on. There is a great deal more to tell. But we are getting long-winded. However, if you like to know about such things; if this knowledge will help you sometimes to answer adverse critics of our work, if the existence of such outstanding research workers among us makes you feel closer to the Department as a living institution with a magnificent history—say so. There is more.

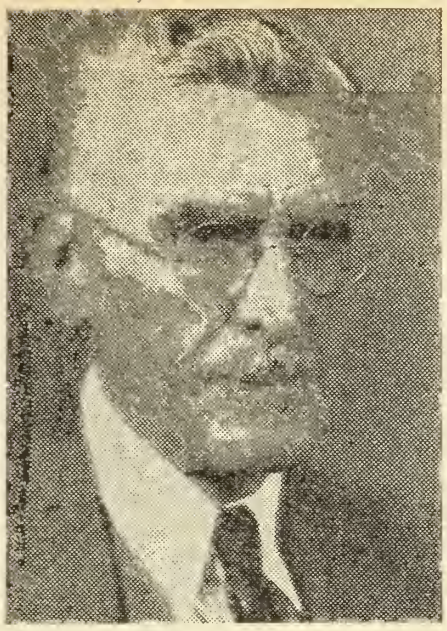
And, incidentally, the Division of Fruit and Vegetable Crops and Diseases, where this work finally headed up, cost the American people only $14,000,000 during the first 44 years of its existence!

Dr. Stockberger retires

Dr. Warner W. Stockberger, "dean of personnel administrators," retired January 1, after 40 years of distinguished service as a scientist and personnel pioneer in the Department. He reached the retirement age of 70 in July 1942, but stayed a year and a half more at the request of Secretary Wickard.

Dr. Stockberger (see cut) entered the Bureau of Plant Industry in 1903 as an expert in histology. For the next 20 years he worked chiefly in his chosen field in biological science and wrote many articles for professional periodicals. His superior officer, in 1920, stated: "The investigation of American hops, for example, which he undertook and carried out as a new line of investigation, is regarded generally as a model of crop investigation in its relation to economic and agricultural conditions." He was sent abroad in 1911 to study European hop culture.

Dr. Stockberger continued as an expert in histology from 1903 to 1909, when the Division of Drug and Medicinal Plants was formed, in which he was a pharmacologist during 1909–10; this was expanded to



include physiology in 1910, and he was physiologist therein during 1910–13. He took charge of Drug, Poisonous, and Oil Plant Investigations in 1913 and held this position until transferred to personnel work in 1923.

Scientist to administrator

But Dr. Stockberger, though a scientist, had never been a narrow one. He liked people, enjoyed human associations, and during his scientific career he was, in the words of a colleague, "dabbling around in administration." He was on bureau committees on efficiency ratings and promotions and was responsible for administration of the Office of Plant Physiological Investigations as well as the office mentioned above.

As a result of his interest and success in personnel administration, former Secretary Henry C. Wallace detailed Dr. Stockberger to the Secretary's Office to carry out the provisions of the Classification Act of 1923. He got results. Ninety-seven percent of the original classification allocations recommended by him and his staff were approved without modification by the Personnel Classification Board.

Dr. Stockberger became known as the "dean of personnel administrators," and when the Society for Personnel Administration was organized in 1937, he was unanimously elected charter president. When President Roosevelt, by an Executive order on June 24, 1938, established personnel divisions and directors in all Federal Departments, Dr. Stockberger had already completed 13 years in such a position.

Students of public administration cite Dr. Stockberger's career as a fine example of the specialist—in this case a scientist—who succeeded as an administrator. His coworkers believe he has had that personal quality which he himself thinks indispensable in a personnel officer, "A sympathetic appreciation and understanding of human nature."

Dr. Stockberger is working on a book on the growth and development of personnel work in the Department. He will also continue to serve as a collaborator, and we are happy to say we shall continue to see him around the Department from time to time.

Paper salvage

The paper shortage, which has been with us in greater or less degree for nearly 2 years, has become acute. In 1944 the paper deficit may amount to a fourth of the Nation's needs. Causes: Manpower shortage in the forests; decline in pulp imports; use of millions of cartons each week for shipping military supplies overseas; use of paper in manufacturing bomb bands, practice bombs, airplane wing tips, airplane signals, parachute flares, ammunition chests, shell containers, etc.; increased need for paper generally as war production has grown.

The Secretary and the War Food Administrator, in General Departmental Circular No. 16, November 29, 1943, requested heads of agencies to limit orders for paper, whether printed or not, to six months' supply except when quantities would be so small as to be uneconomical; to require the utilization or turning in for reprocessing of obsolete and surplus paper stocks; to establish control of orders for forms; to adopt measures for conservation of other paper products such as cartons, wrapping paper, and carbon paper; and to require that, except in unusual circumstances, all duplicated material be single spaced and on both sides of the paper.

It's up to *you*

In great measure, the amount of paper saved will depend on what each individual employee does. Secretary's Memorandum No. 982, February 20, 1942, suggested 22 ways by which employees can save paper. These suggestions should be reviewed and posted in each office. Additional

copies can be obtained from the OPO Records Section.

It will help particularly if every employee will look through his desk and any supply cabinets for which he is responsible, and turn in not only forms, etc., which are no longer used, but also printed or unprinted paper above reasonable needs. It is easy to accumulate paper in desks and cabinets. Why not go through them now?

Another way to help the WPB waste-paper collection drive is to dispose of obsolete records so the paper stock may be reprocessed. In doing so, regulations governing disposition of records must be observed.

Research as you like it

A RATHER indignant writer recently observed that, while tax-supported research was necessary in the field of agriculture, even there the faults of scientific investigation under Federal bureaucratic control were obvious. He went on to say that there was extravagant duplication of effort among various bureaus and State experiment stations, and added that Government-sponsored research tends to lack the continuity and stability which alone make successful effort possible.

If a scientific worker has had experience in research both inside and outside the Government, he comes to realize that either may be good or bad, depending upon a wide variety of circumstances. Continuity and stability are not necessarily lacking in what has been called "federalized research," nor are they always present in research carried on by private enterprises.

As to duplication

Many research projects have been carried on in the Department of Agriculture for a very long time. In a large number of instances the primary problem was solved and an industry saved, but the necessity for scientific control continues. Furthermore, additional investigation is almost always continuously necessary if problems are to stay solved, or if slightly different circumstances so alter the problem that the original solution does not fully hold.

Undoubtedly duplication of effort can easily occur in any large research organization. It is perfectly natural for workers in chemistry, bacteriology, entomology, phytopathology, or other sciences to attack the same problem from the standpoint of their particular science. Certainly duplication is necessary also to confirm important results or to make certain that a particular finding that seems outstanding is or is not correct.

It would be very wasteful to avoid duplication in such matters. Furthermore, the various Department field stations and the State experiment stations are intended and expected to duplicate one another's work under different regional, climatic, soil, or other conditions. But all research projects are carefully examined and evaluated by the Administrator of ARA and the Chief of OES. Unnecessary and pointless duplication is avoided.

As to values

Industries to the value of $100,000,000 a year stem from investigations by a handful of Department plant explorers alone. A few years ago Department plant scientists estimated most conservatively that if 5 percent of their research projects worked out practically, the return was $100 per dollar spent on them. Returns of 500 to 10,000 percent are not unusual from Department research, and 22 accomplishments of Department plant scientists alone profit our public a quarter of a billion dollars annually.

It is said that 7 years elapse between laboratory findings in industry and the market place. The lag is much shorter than that in agriculture because a multitude of agencies can perform multiple tests under varied conditions, and findings, if sound, go into immediate practice.

There is nothing per se about either industrial or Federal Government research that merits our blanket repudiation or commendation. Research is what we make it.

Success secret

SOME WORKERS have speed, competence, industry, intelligence, and many other good qualities, but succeed only indifferently in getting ahead. Others—those we tend to envy and sometimes to derogate—appear to lack these good qualities but forge ahead in spite of their lack.

Naturally many workers who possess good qualities do succeed, while many who are deficient in them fail. But it does seem that certain undefinable characteristics, which somewhat resemble aggressiveness, self-confidence, or even arrogance, can enable ill-qualified persons to be very successful at times.

Some who possess all the qualities usually regarded as essential to success fail, simply because they spread their talents too thin or because of what may politely be called inertia, but what some call laziness. Other such people fail simply because they do not have the knack of self-promotion, and this knack will sometimes get a person quite far without much other equipment.

An extra added something

There is no reason, however, for talented, industrious, competent workers who do not get ahead rapidly to envy and decry others, less talented, who progress rapidly. That is because there is an extra added something, over and above mere competence, efficiency, and industry, that is essential to success.

People who do not have this extra added something rarely succeed spectacularly, no matter how great their knowledge nor how hard they work. If they will not find out what it is and cultivate it, they are better off to face their limitation honestly and to extract joy from their work, rather than to poison their lives with envy of those they cannot emulate, no matter how they try.

USDA delivers

WHILE IN Chicago not so long ago the editor talked with the proprietor of one of the leading bookstores. This businessman promptly stated that people were very much mistaken who imagined that the Department of Agriculture served only rural people.

For instance, a few years ago he was in need of a dressing to preserve the leather bindings of his rare books. So he wrote a letter to the Department. He promptly received a pamphlet containing various formulas, one of which he selected, made up, and used on his rare books with full satisfaction.

The dressing proved so good that he began to make it up in larger lots to supply libraries and other book dealers. Before so very long the Library of Congress began to procure

this dressing from him. Thus it got back to Washington again.

Bugs in the wood

He also told of some rare furniture he owned. Some sort of little bug or worm seemed to be turning it into white powder. So he wrote the Department again and this time received from the Forest Service, as he remembers it, information that not only enabled him to stop this predatory insect in its tracks, but also to better care for all his furniture. He was very thankful.

He spontaneously sang the praises of our Department. He particularly stressed the promptness with which the information came through. He emphasized the fact that you didn't have to have a friend in the Department or to "know a fellow who knew a fellow" in order to get prompt and efficient service. Anybody could do it. All got the same good treatment. He thought that was fine and democratic.

Fertilizer distribution

Several aspects of fertilizer-machine design lacked a basis for modern improvement until USDA researchers got to work. While much attention was paid to the kind of fertilizer needed by specific crops, little was paid to uniformity of distribution and placement of the fertilizer with respect to the seed or plant roots. In 1929 something like 5 million fertilizer-distributing machines were used by American farmers, but with an efficiency estimated at only 50 percent.

Distributing machines were long made in numerous types and designs under the impression that delivery of the desired quantities of fertilizer was adequately controlled. Then research showed that the delivery rate was greatly affected by moisture conditions and the physical and chemical nature of the fertilizer itself as well as by various changes in field operating conditions. With results of Department research as a guide, manufacturers have improved many distributing machines and have prepared fertilizers in better drilling condition.

In narrow bands

The Department began large-scale fertilizer-placement studies about 1932. It found that some crops thrive best with fertilizer applied in narrow bands at each side of the row at planting time and that yields could often be increased 20 percent or more by proper placement of fertilizer. There followed immediately commercial production of a wide variety of fertilizer-placement machines, new in design and capable of putting the fertilizer where it would do the most good.

The Department now is trying to find out how best to handle and distribute ammonium nitrate, large quantities of which have been released from certain war plants for use as fertilizer.

Value of the useless

It has been said that good research scientists find out more valuable things by accident than the ordinary run of people ever do on purpose. This is not quite true, but has its merits as an approximation. It is also a fact that basic research workers often seem to concentrate most intensively on problems that appear to have no possible value to humanity. But the utility of the seemingly useless knowledge they accumulate is often surprising.

Many years ago Karl Wilhelm von Nägeli, a brilliant Swiss botanist, was studying the fresh-water alga belonging to the genus *Spirogyra*, known to laymen as "frog spittle" or "green slime." This alga grows in ponds and slow streams. To the naked eye it looks like fine, long, green silk thread. But it is easy to see the living cell in operation and that is why this plant is often selected for study.

True, a visiting committee of farmers or businessmen might not have been suitably impressed with the activities of a scientist who frittered his time away on frog spittle. They would probably have been as disgusted as was Nägeli when he could no longer get the alga to grow in his carefully prepared solutions which contained everything a well-mannered alga should want in just the right proportions to please.

The alga died

However, the alga disconsolately died every time. Day after day Nägeli tried to find out why. At long last he discovered that minute traces of copper from his bronze laboratory faucet caused the water he used to kill the alga. The amount of copper involved was so small that no known method of chemical testing revealed it, but an optical test indicated it was 1 part in 50 million parts of the water. That little bit of copper killed the alga, a fact Nägeli recorded in a little pamphlet and then went on to other things.

This remained untranslated and almost forgotten for fifty years. Then a cress grower appeared in the USDA and complained that he and other growers were being put out of business because some disease killed the cress. Dr. George T. Moore was sent to investigate. He found that *Spirogyra* was smothering the cress, and he thought immediately of Nägeli's forgotten pamphlet.

Where the trail led

Arrangements were made to add 1 part of copper per 50 million parts of water in the cress beds. This destroyed the alga without injury to the cress. That led to further study of the use of copper in destroying algae of various kinds which impart an objectionable taste and odor to the water in some reservoirs. Methods were worked out of using copper for this purpose and these became standard sanitary engineering practice.

It was then observed that certain species of pathogenic bacteria in the water—those of the colon group, for instance—could be destroyed by the introduction of small quantities of copper, with no danger to those who drank the water. This killed certain types of fish, however. That fact led to the testing of chlorine to kill the objectionable bacteria. That was effective without injury to the fish or algae. Its use also became standard practice in some reservoirs.

Then it was observed that traces of copper killed mosquito larvae. Colonel Gorgas next suggested that some USDA men be sent to help him clean up the Isthmus of Panama, and Karl Kellerman was assigned the job. Study of the value of copper in nutrition was another step that followed in other institutions. It was found that diets deficient in copper produced secondary anemias and that a trace of copper was also essential for plant growth. So much for Nägeli's penchant for monkeying around with frog spittle.

Brief but important

Dr. Oswald Schreiner retires

Dr. Oswald Schreiner has retired from the Department, after more than 40 years of service, many of them spent in charge of the former Division of Soil Fertility Investigations. Dr. Schreiner was appointed expert in physical chemistry investigations in the former Bureau of Soils in 1902. During his service in the Government, his soils investigations contributed greatly to advances in this field.

Dr. Schreiner and his associates in the Division of Soil Fertility Investigations introduced the "triangle" method of expressing the ratios of nitrogen, phosphorus, and potash in fertilizers, as well as the Schreiner colorimeter and other methods for determining water-soluble plant-food constituents. They likewise discovered basic facts on the relationship of the so-called rarer elements to the health of plants, on the effects of soil organic matter in promoting or inhibiting plant growth, and more than 50 new organic compounds in soils, resulting in changed fundamental conceptions of the part played by organic matter in crop production.

Newsy letters

From the State AAA office in Alabama came a special Christmas edition of their weekly news letter, The AAA News to the Khaki and Blue, for employees in the armed forces. This news letter has been going since September 1942. The Washington AAA office sends out a similar letter. Office of Information people wrote a newsy mimeographed letter in December to their coworkers in the service and intend to make it a monthly. Employees of the OPO Photographic and Duplicating Services Division write a sort of round robin to individuals in the service from time to time. Some of these news letters carry the names and addresses of the men and women in the service. Issuance of all such letters is an unofficial, extracurricular activity.

WILLIAM A. HAGAN, Dean of New York State Veterinary College at Cornell, is on leave for a year as special assistant to A. W. Miller, BAI Chief.

Easier Typing

Requests and compliments are coming into the OP Division of Training on a new booklet, Easier Typing (Administrative Series No. 1). This pamphlet is proving helpful to secretaries, stenogs, and typists in conserving energy, time, and typewriters.

Pointers on correct posture (see cut), care of the typewriter, and short cuts in typing are illustrated as practical hints for the alert typist. Does your back tire quickly? Then perhaps your typewriter is not high enough (see *USDA*, June 12, August 21). Do new ribbons smudge your work? Unwrapping a heavily inked ribbon a week or two before use will dry off excess ink and will not injure printing quality. Paragraphs on ribbon change, numbering manuscripts, chain feeding, typing narrow labels, and drawing lines give equally simple solutions.

Requests for this booklet may be made to bureau personnel offices.

REA aids Manitoba commission

In June 1942, the Province of Manitoba, Canada, set up a special commission to investigate the possibilities of rural electrification there in the post-war period. The commission spent several days at REA headquarters in St. Louis, studying U. S. rural electrification methods, and later stated in its report:

Obstacles to rural electrification are viewed by REA officials as challenges and they simply refuse to accept any difficulty as impossible of solution. This problem-solving attitude is a point of view deeply instilled in the minds of every official in responsible position. The results attained are the reward for this enterprising and pioneering spirit. The REA is the first large organization, perhaps in the history of the world, to devote all of its energies exclusively to farm electrification. Furthermore, the many dire predictions of its ultimate failure no doubt helped to spur it on to success.

Library aids FSA training

FSA in the Pacific Northwest is pioneering in new techniques for employee training. With the cooperation of the USDA Branch Library at Portland, FSA county supervisors are receiving in-service training through correspondence. The Regional Training Committee and the branch librarian prepare packets of instructive literature for circulation among the supervisors.

ELEANOR LIGHTER, CCC, suggests that in typing copy for multilith jobs an oversized sheet be used which will take considerably more words to the page than the regular 8 by 10½ sheet. In making the multilith plate, the copy can be photographed down to 8 by 10½ size, thus reducing the size of the type. The result is a substantial saving of paper, particularly on large orders. In view of the serious paper shortage, this suggestion should be adopted whenever possible. OPO is preparing a special oversize sheet (Form AD-272) to be used in preparing multilith copy.

Unsolicited correspondence

Elmer A. Starch, BAE, Lincoln, Nebr., writes the *USDA* editor:

I believe that *USDA* contains the things that Departmental employees should know . . . I wish that 80 percent of the Department could arrange to discuss the items which appear in *USDA*.

January 8, 1944 Vol. III, No. 1

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U. S. GOVERNMENT PRINTING OFFICE: 1944

USDA

ROUTE TO
1_____ 3_____
2_____ 4_____

SHARE THIS COPY January 22, 1944

Administrators hit pay dirt

We have spoken of scientists before. We have told how their research results in invaluable discoveries that pay out in terms of enhanced national income. But administrators also undertake long, complex, and painstaking studies. Often these seem prosaic and far from spectacular. But they, too, pay dividends.

The results of these studies enable Uncle Sam to perform his intricate business in the field of agriculture with greater precision, economy, and efficiency. That, too, profits the public of which we all are simple servants.

LA's and travel vouchers

Something over 3 years ago W. A. Jump, Director of Finance, penned this note to one of his assistants: "A standard Letter of Authorization for the Department would be an achievement." Action followed. Examination revealed the existence of 55 different LA forms in departmental use. These were replaced by 4 standard forms.

All bureaus and offices were requested to use the forms. At first a few were reluctant to do so. Today only one bureau does not use the forms, and only one objects to them, but uses them anyway. A few minor changes were suggested by the agencies after 3 years of use and these were adopted. Other forms, too, can and will be standardized, other savings made.

Publication of B&F's Circular 653, January 11, 1943, explaining the mysteries inherent in travel vouchers, has already been of great aid to inexperienced Department travelers. It will lead eventually to standardized preparation and audit of travel vouchers, eliminating many unnecessary and redundant procedures now in use.

The questionnaire mania

That is only one achievement in efficient operation. There are many. It was J. L. Talbert, of B&F, who sensed that much time was wasted and thousands of dollars were spent by various Departments and agencies on repetitiously compiling information about the number of vehicles used, mileages driven, costs of operation, and so on, to meet varied requests and to fill out differing questionnaires.

At Talbert's suggestion the collection of all such data was centralized in the Public Roads Administration. Information once gathered could be used to answer all queries. Duplication and much expense were eliminated. More satisfactory data have also been obtained.

Half a million

Many administrative savings result from painstaking investigation long sustained. A Bureau Accounting Service recommendation to the Post Office resulted in the elimination of about a hundred thousand bills, and savings in voucher examination and paper consumption of upwards of $500,000 in the Government, by use of a monthly rather than a daily billing for postal money orders purchased by USDA offices and other agencies.

The working capital fund of $400,000, established in the USDA Appropriation Act for 1944, on recommendation of B&F, finances many service activities on a reimbursement basis and has eliminated many a headache. It furnishes cash for payrolls and supplies, pending receipt of reimbursements from agencies served.

Legislation included in the 1944 Independent Offices Appropriation Bill at long last authorized raising the open-market purchase limitation from $50 to $100. The former limit, established for the Department in 1899, had long been obsolete, but it took a lot of work to get it increased. In 1941 over 14 percent of the Department's awards were in the $51–100 category. Mere informal price solicitation, sans advertising, saved both time and funds.

Space, telephones, paper

Space in Washington buildings was used more intensively by USDA during the 1943 than during the 1942 fiscal year, employees averaging only 104 square feet each, as compared with 111 in 1942. This is equivalent to a saving of 1¼ acres of floor space and enables our buildings to house 1,066 more workers than last year. P&O, as result of a survey of telephone facilities in Washington and the field, released 618 instruments with savings of $13,000 a year in rentals.

R. L. Webster's (Secy. Off.) suggestion that the weekly radio letter be sent uninclosed will result in saving 4,400 envelopes a year. During the past 2 fiscal years about 80 printed or duplicated periodicals were reduced in size or in number of copies per issue, while printed annual reports of agency chiefs were cut in half.

Tell us more

This catalogue is fragmentary. It presents a mere sampling of recent monetarily valuable accomplishments of administrative workers. Many more examples could be cited. Some from the personnel field will be, as soon as space permits.

There are many more stories of this kind, and all Department employees should know about them. A goodly proportion of them should come in from the field. Won't you consider yourself a committee of five to gather such stories and send them in to the editors, so that we may do justice to administrators as well as to scientists, for all are bureaucrats together!

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Value of research

On February 26, 1940, while still Secretary of Agriculture, Vice President Wallace told the Senate Appropriations Committee that industry spent a quarter of a billion dollars annually on research, which indicated that private enterprise thought it plenty important. He then stated that the Department's recent discovery that spraying plant hormones on trees prevents premature apple drop would be worth at least $3,000,000 a year to the apple industry.

He continued that, while it had cost only $10,000 to discover that phenothiazine could be used in place of much more expensive drugs to remove the injurious internal parasites of sheep, cattle, and horses, the finding is worth $5,000,000 annually to farmers in reduced drug costs alone. Later phenothiazine was found additionally useful in preserving sheep intestines from perforation by parasites, thus making more of them available for producing surgical sutures in wartime.

As a result of a recommendation made at the St. Louis meeting of the personnel officers, Pers. Director Reid has set up an Inter-Bureau Advisory Committee to consult with and advise him on re-employment policies, procedures, and problems affecting the return of employees having re-employment rights. Assistant Pers. Director Herrell is chairman of the committee, which also comprises representatives of FS, FSA, FDA, BAE, EPQ, and AAA. Director Reid has designated N. R. Bear to represent Pers. on the Staff Committee of the Administrative Council.

Halting the sand dunes

Mr. Wallace also mentioned SCS's study which resulted in the control of moving sand dunes. Use of this method for the treatment of dunes in the Arkansas River Valley in Colorado cost the Government $18,000 and saved $2,500,000 worth of railroad construction work.

Investigations at the Regional Soybean Laboratory at Urbana had shown how the green color could be removed from oil pressed from prematurely ripened soybeans, which had hitherto sold at from 5 to 30 cents less per bushel because of this defective color. Dockage was liberalized and soybean growers of Illinois saved $1,000,000, or sufficient to pay the entire cost of operating the laboratory for many years.

Dairy-herd-improvement work carried on in BDI had resulted in stepping up butterfat production per cow enough to bring dairy-herd-association members increased returns of $8,000,000 a year. Research pays out.

Food Fights for Freedom

In case the Department in Washington is an empty name to you, you may be interested in knowing just how the food-information programs get to you and others. We have a program leader for each of the following programs: Production goals, machinery and facilities, farm labor, victory gardens, nutrition and industrial feeding, food conservation, home food preservation, using temporary abundance and compliance with food orders, rationing and price control, post-war planning, and forest-fire prevention. The program leader is located in the agency most directly concerned with the program involved. He is responsible for planning, initiating, and following through on campaigns in cooperation with all the other information, administrative, and technical people involved, regardless of agencies.

It was the practice to call all these people together in weekly meetings in Inf., but now a weekly FFFF round-up of these programs is proposed by combining statements from each of the program leaders covering: (1) New developments, if any; (2) points to be stressed at the time; (3) forward scheduling; (4) facts or other "ammunition"; and (5) promotional ideas. This round-up then would be sent to USDA information people who service various outlets such as the Food Information Calendar, Memorandum to Farm Program Directors, Letter to Farm Editors, Magazine War Guide, the Food Trade Letter, and many others—36 in all.

That is how war food information starts on its way to you and the public, both farm and city.

If you would like further information on the progress of the FFFF campaign, you can get it in the supplement to the Food Information Calendar, dated December 18, 1943, which is sent to heads and information heads of all State and regional USDA offices. This issue gives a complete round-up to date and will be followed by other progress reports.

President Illian

It was a real pleasure to your editor to meet Pres. A. J. G. Illian of the New York USDA Club, on a recent trip there to talk to the club about the Department, its history, structure, and functions. Mr. Illian is a charming and widely informed fellow, the precise opposite of the stereotyped bureaucrat. He is senior supervisor of the Commodity Exchange Section, FDA's Compliance Branch. Oldsters would know this agency as the former Commodity Exchange Administration.

Mr. Illian has not been in the Department long. He entered it from business in 1940. But he is very much pleased with it. He thrilled with pride not long since when a Hollander to whom he was introduced, and who asked where he worked, assured him that in Europe the Department of Agriculture was considered tops in our Government agencies. This, the Hollander said, was especially true in his own country.

Nip and tuck

His experience in and outside Government service has convinced Mr. Illian that neither is per se worse or better than the other. He feels, however, that we Americans have long tended to judge government by its worst performances and business by its best. If, instead, we compared the best of Government with the best of business operations, it would be nip and tuck.

However, he feels it should also be remembered that Government has to tackle the harder tasks, those least likely to be rewarding in cash, those neglected by private enterprise or which for various reasons it is inexpedient for private enterprise to undertake. All things considered, President Illian thinks government shows up very well indeed, and the Department of Agriculture supremely well in particular. That spirit, founded on careful factual investigation by an objective and experienced individual, should prove inspiring to the rest of us.

Standard Abbreviations

The following list of standard abbreviations of USDA and WFA agencies, issued January 4, has been adopted for general use. The abbreviations will be used hereafter in *USDA*.

Agricultural Adjustment Agency	AAA
Agricultural Economics, Bureau of	BAE
Agricultural & Industrial Chemistry, Bureau of	AIC
Agricultural Research Administration	ARA
Animal Industry, Bureau of	BAI
Beltsville Research Center	BRC
Budget and Finance, Office of	B&F
Commodity Credit Corporation	CCC
Dairy Industry, Bureau of	BDI
Entomology & Plant Quarantine, Bureau of	EPQ
Experiment Stations, Office of	OES
Extension Service	Ext.
Farm Credit Administration	FCA
Farm Security Administration	FSA
Federal Crop Insurance Corporation	FCIC
Food Distribution Administration	FDA
Food Production Administration	FPA
Foreign Agricultural Relations, Office of	FAR
Forest Service	FS
Graduate School	GS
Human Nutrition & Home Economics, Bureau of	HNHE
Information, Office of	Inf.
Labor, Office of	OL
Library	Lib.
Materials and Facilities, Office of	M&F
Personnel, Office of	Pers.
Plant Industry, Soils, & Agricultural Engineering, Bureau of	PISAE
Plant and Operations, Office of	P&O
Rural Electrification Administration	REA
Secretary, Office of	Sec.
Soil Conservation Service	SCS
Solicitor, Office of	Sol.
Transportation, Office of	OT
War Food Administration	WFA

Graduate School

The spring semester begins January 31. Fall registration in 1943 was about 4,000, as compared with about 3,300 for 1942, a remarkable showing, war conditions considered. About 200 resident courses are available in Washington and 11 correspondence courses for field employees. A folder describing the correspondence courses may be secured from the Washington office of your agency or from the Graduate School, as can the January 1 issue of the catalogue of resident courses. (Washington employees: Phone 5943; Room 1031 South Building.)

Four new correspondence courses to be offered are Federal Government Accounting, Federal Auditing Procedure, Vocabulary Building, and Legal Aspects of Investigations—Criminal Evidence and Procedure. Field investigations of the P&O Division of Investigations have been drawn to Washington to take a special resident course of 2 weeks in the last-named subject.

Bureaucratic dividend—400 percent!

Mary Louise halted her noontime sandwich in midair.

"Here's a press release about us," she called across the room to the Old Timer. "I mean about that preharvest spray—Dr. L. P. Batjer's new Circular 685, on harvest sprays for control of fruit drop. It says it will add 4 million dollars a year to the income of fruit growers."

"It'll do something more important than that," contended the Old Timer.

"It will add millions of dollars worth of high class food to the consumer's list. Apple growers, you know, have been losing thousands of bushels of fruit from this drop—pear growers, too. Saving most of this fruit, as the spray promises to do, actually means the equivalent of increases in the production of apples and pears. See?"

"I see," nodded Mary Louise. "I'm getting to like this job here."

"You bet you are!" said the Old Timer. "Most of us soon get around to seeing that it's a privilege to work for the USDA; an opportunity for service, I mean. You begin to feel like somebody. You know the history of the world has been summarized in as few as seven words: *They were born; they suffered; they died.* Tombstones are even more pessimistic; they usually have a blank space between the dates of birth and death. Most of us like to feel that what we are and what we do is important. It's a big boost to the old morale to have a job that proves to you that you are doing worthwhile work. Four million dollars! That means that this single discovery, one piece of research out of the hundreds under way, will return to the taxpayers of the country four times the cost of our entire division!"

For holly, fruits

"First sermon this year that I didn't sleep through," applauded Mary Louise. "And I did help with that work, too. I took dictation from Dr. Frank E. Gardner once when his secretary was on vacation. That was four years ago, when I first came here—and he, Dr. Batjer, and Paul Marth were then working on the spray—"

"With holly plants," put in the Old Timer. "Yes. And they decided that it might work with apples and other fruits—and went down and tried it on the apple trees. They got results in a couple of days. Only a dozen apples dropped from the sprayed trees; under the trees that were not sprayed the ground was covered with apples. From then on, of course, it was a procession. Last season enough of the spray was distributed by manufacturers to treat 100,000 fruit trees. To show what these manufacturers think of the spray's future, a single issue of a prominent fruit grower's magazine last summer devoted about a third of its pages to advertisements of the spray! It's so successful, in fact, that the research men are getting worried; they think growers will be tempted to leave the fruit on the trees too long, thus shortening its storage life. But I tell them the real problem—"

"The real problem?" encouraged Mary Louise.

"—is the absurdly small quantity of growth substance needed for making the spray—half a teaspoonful to 100 gallons of water. Some grower is going to make up his mind that it isn't enough. He will toss in a full spoonful—and have to use a chisel to get his fruit off the trees."

John A. Ferrall, *PISAE*

In answer to your query

27 Stubble Terrace
Arroyo, Md.

Soil Conservation Service
Gentlemen:

My husband is in the habit of accumulating junk in the attic. He insists on saving things, including material of no seeming value, and won't allow anybody to disturb it. He is a soil conservationist by profession. Is there something about his work that makes him act this way?

Mrs. Fannie Mulch

Dear Mrs. Mulch:

Soil conservationists are known to act this way, Mrs. Mulch. It's a habit they have picked up from their work. The only things a soil conservationist hasn't been able to make any use of are old streetcar transfers and used razor blades. Most everything else he uses to protect or build up the soil—from trash to porch vines.

Take trash, Mrs. Mulch, In farming, that would be crop left-overs, straw, stalks, weeds, and other residue. The conservationists don't burn it. They save it all, maybe adding excelsior from mail-order packages and whatever else is around. It is strewn all over the surface of the ground to protect the topsoil and keep soil moisture from evaporating. Trash makes strange "bed fallows," but it helps production.

Or take leaves. Most people would think they were showing the proper community spirit by raking leaves up and burning them every fall. Not the soil conservationist. He saves them. Dr. Hugh H. Bennett, SCS Chief, wrote a letter to the editor of a Washington newspaper about this. He said: "Stack leaves in out-of-the-way corners . . . in the course of a year they will have rotted . . . into highly desirable form for revitalizing ailing soil and for protecting the ground and keeping it cool and moist in summer . . . highly effective for preventing erosion on sloping areas and for increasing the absorption of rainfall."

Until the soil conservationist came along, a plant called kudzu flourished in ornamental splendor. It was used as a porch vine, as a shade plant around buildings, and was often seen spiralling around telephone poles. The conservationists took it out of the luxury class and put it to work—to stop soil erosion, store water and nitrogen in the soil. The plant whose name sounded like a sneeze within a few years converted thousands of eroded acres into productive land. Soil conservationists now call it a "miracle crop." One of the boys in the SCS Information Division, Bill Pryor, is experimenting with a kudzu soup, a sort of green borscht which you would imagine tastes like alfalfa. It does, Mrs. Mulch.

So don't be too sure that there are things in the attic which the conservationist can't put to use some day. They are very resourceful that way.

If a word of advice is permissible here, Mrs. Mulch, it would be not to disturb your husband's upstairs possessions. To a conservationist who realizes that it takes Nature centuries to build an inch of topsoil, nothing is calculated to give him such ecstatic delight as to find an inch of rich dust that has accumulated practically before his eyes in a brief year or two.

I hope this answers your question.

Emil Corwin, SCS
Information Division

Belated Christmas story

On December 23, T. P. Shreve, of FSA, stationed in Milwaukee, sent the editor a fine little Christmas story regarding a toy exhibit, promoted by Mrs. Grace Barrett, associate FSA supervisor at Antigo, Wis. There was even a charming illustration attached. Unfortunately, however, Christmas was over when the story reached us, though we should have liked nothing better than to have had it in our December 25 issue. Let this be a lesson to our reporters and others, who must remember that *USDA* appears every other Saturday, and that material to go in a particular issue must reach us 2½ *weeks before* the date of the issue. Please don't let the editor weep bitter tears again over such fine little lost stories.

New advertising director

J. Sidney Johnson, merchandising manager for the National Biscuit Co., has been appointed advertising director for WFA's educational programs, succeeding Vernon D. Beatty, who has returned to Swift and Co. Johnson directed promotion of the 1943 program, carried on cooperatively by WFA, OWI, and OPA, through wholesale and retail trade channels. He will now manage the entire advertising operation.

The omission of pictures from this issue was deliberate. The paper shortage makes it expedient to pack as much information into USDA's *columns as possible. But what is your reaction? Do you pine for pretty pictures, or don't they matter? Also note the new routing schedule (page 1) and send each copy along to others, so saving still more paper.*

Brief but important

Organizational changes

Administrator's Memorandum No. 27, Supplement 2, dated December 1, 1943, announced that the Office of Transportation would hereafter be considered a part of the Office of the War Food Administrator instead of a WFA program agency. Administrator's Memorandum No. 11, Revised, Supplement 2, dated December 30, 1943, discontinued the Office of War Board Services; its personnel was transferred to the Office of the FPA Director; and henceforth its functions are to be performed by the chairman of the National War Board.

General Departmental Circular No. 21, January 1, 1944, abolished the Office of Land Use Coordination. But E. H. Wiecking remains a member of the Secretary's staff, to whose Office the functions, personnel, property, and records of his unit have been transferred. He will continue to serve as Land Use Coordinator, assisting both the Secretary and the War Food Administrator.

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U. S. GOVERNMENT PRINTING OFFICE: 1944

USDA

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February 5, 1944

Cinchona comes home!

CINCHONA BARK is the raw material from which quinine is made. Its medicinal properties were discovered in the seventeenth century by the Spanish in Peru. Important at all times, it is practically invaluable now when on tropical battle fronts malaria is removing from combat probably two men for every one removed by enemy bullets. Seed of cinchona was originally obtained in South America by a British horticulturist, taken to England, and later turned over to the Dutch, who so improved it that Java became the world's chief source of quinine. Then the Japs stepped in!

How quinine was brought back to the Americas is a dramatic story in which the leading part was played by Col. Arthur F. Fischer, Military Intelligence Reserve, with research investigators and plant propagators of PISAE filling strong supporting roles. Twenty years ago Colonel Fischer, then head of the Philippine Bureau of Forestry, established cinchona growing in the Philippines. This was a remarkable accomplishment in itself, as he managed to obtain seed of the high yielding, carefully guarded *Cinchona ledgeriana* developed by the Dutch in Java.

In March 1942 Colonel Fischer found himself ill with malaria in a field hospital in besieged Bataan. Asking for more quinine, he was told by the nurse that the supply had been practically exhausted. He at once realized the seriousness of the situation. The Japanese already had control of most of the Philippine cinchona plantings, but he knew of trees still available at Mindanao. In an ancient plane he flew there and began to collect cinchona bark and, with makeshift equipment, to prepare quinine from it.

Rescued from the Japs

Then Bataan fell, and with Mindanao's fall a matter of days, or perhaps hours, he hurriedly collected some 2 million cinchona seeds, packed them in a milk can, and flew them to Australia. There General MacArthur arranged for shipment to Washington, and ultimately the seed came to the Department. That was the cue for the entry of PISAE specialists upon the stage.

Under favorable conditions in their native home only a fair proportion of the seed would have grown and thrived. But the PISAE specialists had an ace up their sleeves—seed propagation in sphagnum moss. Seed grown in this moss escapes diseases that do severe damage to seed planted in soil. So the Fischer cinchona seed went into sphagnum moss in greenhouses at Glenn Dale, Md., fed with liquid nutrients sprinkled on the moss. More than 90 percent of the seed germinated!

By plane to Latin America

By the end of 1943 over 240,000 vigorous seedlings had been shipped by airplane to Brazil, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Mexico, Nicaragua, Peru, and Puerto Rico—and more seedlings are still growing; more seeds are being planted; and still more are safely stored for later planting. And when shipping time comes the seedlings never leave the sphagnum moss (see photo) but, moss and all, are packed in cartons for quick flights to the lands where they will grow into trees bearing bark for quinine. The use of sphagnum moss, you see, also solved some shipping problems, for it is extremely light in weight and holds moisture for the plants.

So quinine has come back home—to stay. You have probably read

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something of this in the magazines, or heard about it over the radio, but it is gratifying to know that Department specialists played such an important part in making sure that Colonel Fischer's efforts would not be in vain.

Farm transport situation

THE FARM TRANSPORTATION situation for 1944 will be difficult. Make no mistake about that. This year will be the most critical period in the movement of farm products to market.

Farmers must meet the crisis as best they can by rigid maintenance of all automotive equipment and by pooling rolling stock whenever possible, for little new equipment indeed can be made available to them. Only 1,500 heavy-heavy trucks (over 5 tons) are scheduled for delivery to civilians during each of the first and second quarters of 1944; only 2,734 for each of the third and fourth quarters.

The light-heavy truck (3–5 tons) situation may get a little better, though not much. It now looks like 500 for the first quarter, 1,000 for the second, and 6,424 for each of the third and fourth quarters, *provided* axle and transmission facilities can be expanded to meet this schedule. The figures for medium trucks are, by quarters: 1, 6,250; 2, 12,062; 3, 20,118; and 4, 20,120.

Should the entire projected program for the manufacture of 81,000 trucks be carried out, it is doubtful whether agriculture would get in excess of 25,000–35,000, or something like 20 percent of its expected needs. Today there are only about 15,000 trucks in the stockpile for all civilian purposes and only about 50,000 passenger cars.

Tractors, trucks, trailers

It looks as if many farmers must fall back on traditional American ingenuity to get their stuff to market. They may have to rig up trailers and pull them behind tractors, trucks, or even family cars. Pick-ups, station wagons, any conceivable vehicle may have to be put to use.

Why did this happen? Did the synthetic rubber program fall down on the job? No, it did not, but making synthetic rubber is one problem, quite separate and distinct from another problem, that of making tires out of synthetic rubber.

Furthermore, there are 12 million pieces of rubber-mounted farm equipment and automotive vehicles of various sorts on American farms. Wear is hard. The same is true of tires on overloaded commercial trucks and passenger busses. New tires simply cannot be produced in sufficient quantity in the immediate future to prevent an extension of present shortages.

Armed forces come first

The requirements of the armed forces come first. Shortages of crude rubber, manpower, high-tenacity rayon cord, and adequate industrial facilities make it impossible to expand production for civilians under wartime conditions. Every possible conservation measure must be taken to avoid a really disastrous break in our accustomed transportation system.

A year prior to the war 50 million passenger-car tires were distributed in the U. S. During 1943 only 17.2 million were distributed, which in addition can give service equivalent to only 12 million new tires. Many were made of reclaimed rubber or new synthetic, or were used on emergency tires.

Holders of A books can now get used tires only if they can show that part of their driving is occupational. Holders of B books can get certificates for used or emergency tires, but no new ones. Only those whose gasoline ration permits them to drive 601 miles or more per month can get new tires. There is no restriction on passenger-tire recapping.

The next 5 to 8 months will be the most difficult. A global war, 2 years of wear and tear on tires, and the need (in order to save crude rubber) of considering only military and most essential civilian uses have made tires scarcer. Peacetime inventories of tires have been reduced to a minimum. Military requirements have expanded materially. While new production will increase, it must wait for other programs. Meantime, we must all conserve. For a long time to come, much transportation must depend on *recapped tires.*

FIRST LT. Leo H. Brown, Army Air Corps, England, who used to be a messenger in the BAE Division of Agricultural Finance and later a clerk in SMA, recently wrote a letter to the division in which he said: "We usually place the names of people we know on bombs about to be dropped in a raid. You'll be interested to know that an incendiary was dropped some time ago with the division's name."

Come out of the kitchen

WRITING ON "Home Made Penicillin," in the Journal of the American Medical Association for December 25, 1943, Robert D. Coghill, chief of the Fermentation Division, and Kenneth B. Raper, senior microbiologist, AIC Northern Regional Research Laboratory, question the proposition that penicillin preparations suitable for external use can be produced easily in laboratories with limited facilities or even in the kitchen. Despite numerous scientific articles and press releases to this effect, caution is necessary.

Among other things, *Penicillium notatum*, which makes the drug, is not necessarily the green or blue-green mold found on bread, cheese, and other foods, though it may occur among the many molds which grow on these foods. There are literally scores of blue-green species which can be distinguished from *P. notatum* only by painstaking laboratory procedures, and there is only one chance in a hundred that a blue-green mold picked up at random will produce penicillin. The metabolic products of only a few of these other molds have been studied at all carefully; some of their byproducts are toxic. It is also possible for good cultures of *P. notatum* to become contaminated rather easily.

Attempts of inexperienced persons to produce penicillin with adequate laboratory facilities could be disastrous. There have been deposited with the American Type Culture Collection (non-Government) in Washington cultures of the two strains of *Penicillium notatum* which are being used almost universally in the industrial production of penicillin. These are available on request for a nominal charge. The writers conclude, "We feel that there is inherent danger in the proposed practice of using 'home made' penicillin."

Let's all back the attack!

Womanpower to the rescue

An example of solving the manpower shortage by using womanpower is the appointment of Grace D. Eleyet as FSA supervisor for Pike County, Ohio. She is the first woman promoted to this position in Ohio, where in 2 years the 59 FSA county offices lost 40 men to the armed forces.

For 18 months Mrs. Eleyet was county associate supervisor. In that time, 3 men supervisors successively left for military service, and Mrs. Eleyet helped FSA families with farm as well as home management problems. State Director A. L. Sorensen looked over her record and gave her the job of full-fledged county supervisor.

A farmer's daughter and a trained home economist, Mrs. Eleyet knows practical farming as well as rural home management. She will handle loans and collections and provide supervision for 178 rural-rehabilitation families. She will also investigate applications for the county's first tenant-purchase loans, and advise in operation of the FSA medical care plan and the county purchasing and marketing association.

Hydroponics

THERE'S A WORD to live up to. Maybe you don't know what it means. Neither did we, till we hunted it up. It refers to the production of food plants in water cultures of chemical nutrients. You may call it chemiculture, if that suits you better.

In connection with the Victory Garden Campaign, certain unscrupulous concerns began to advertise miracles that ordinary people could perform in this field. You got the idea that all you needed was a cellar or sun porch, a lot of containers for your culture, a few seeds and, blooey, tomatoes all over the place bigger than life and even more palatable.

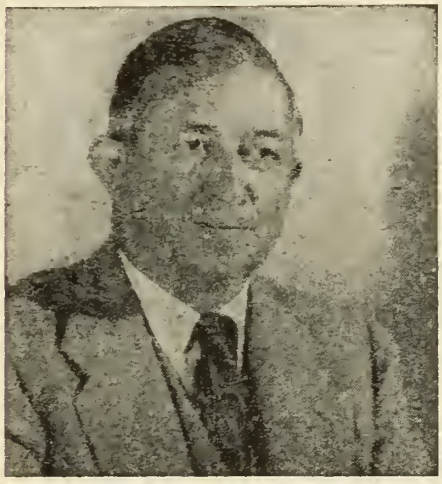
Some sought to produce ample supplies of vitamin-laden vegetables in attics, garages, basements, or any available space, as advertised. Folders appeared advising you not to go hungry and depicting housewives plucking 15 or 20 huge tomatoes from a vine rising coyly from a jar of water.

What are the facts?

Actually it is a tricky business to raise vegetables in water culture. It would help to be a magician, but not much. In most instances chemiculture, or hydroponics, is neither feasible nor practicable as a means of raising such food products. Ordinary householders cannot hope easily to grow year-round Victory Gardens without soil and toil, free from molestation by insects and parasites.

They cannot hope to control the mineral content of their growing foods and to produce several different crops in one container. The amateur gardener has neither the scientific knowledge, technical experience, nor necessary equipment to grow food without soil or in places lacking sunshine and proper temperature.

The required material suitable for home installation is very limited during the war. The required chemicals are procurable only on priority orders. The required brains and experience are rarer still. Hesitate before you plunge into water culture.



Hendrickson leaves, Marshall FDA head

ROY F. HENDRICKSON leaves his job as FDA Director to be Deputy Director General of the United Nations Relief and Rehabilitation Administration. He will be in charge of the UNRRA supply program, covering food, clothing, medical supplies, equipment, and other material. He will also be responsible for ascertaining the needs of the rehabilitated nations, for bringing them to the attention of the supplying nations, and for working out agricultural rehabilitation activities in liberated areas. Lee Marshall (see cut) succeeds Mr. Hendrickson as Director of Food Distribution.

Mr. Hendrickson came to the Department about 10 years ago, to work with the Assistant Secretary, and later served successively as Director of Economic Information in BAE, Director of Personnel, and Administrator of the former Agricultural Marketing Administration. When the Department was reorganized in December 1942, Secretary Wickard appointed Mr. Hendrickson Director of Food Distribution, with responsibility for the Department's functions concerned with the marketing and distribution of food. He also served the Department as secretary of its Land Policy Committee and as chairman of its Agricultural Labor Committee.

Lee Marshall returns to active duty with WFA, having formerly served as Director of Materials and Facilities. In this capacity he worked with WPB in setting up the 1944 program for increased supplies of farm and food machinery, repair parts, fertilizers, and other production materials. He returned last November to the Continental Baking Co., which he organized and of which he is now board chairman, but continued to act as consultant to the WFA Administrator. Mr. Marshall is now on leave from the company.

Brief but important

WFA changes

Since we went to press, WFA Administrator Jones announced that the Food Production Administration and the Food Distribution Administration have become respectively the Office of Production and the Office of Distribution. An Office of Price has been established to handle matters relating to food prices under WFA. The AAA, FSA, and SCS (formerly under FPA) have become independent agencies reporting directly to the Administrator. No fundamental change in WFA organization is involved.

Prisoner a profit

FBI's Hoover says that crime costs the United States $15,000,000 annually. SCS's Bennett says that soil erosion levies a tax of $3,844,000,000 on the citizens of this Nation every year. It normally costs $1.29 a day per person to keep prisoners in a penal institution; hence it would average $240,000 a year to maintain 500 of them. But Barrington King, SCS (see January Soil Conserva-

tion), says that the Shelby County Penal Farm near Memphis, Tenn., maintained its 500 inmates *at a net profit of $99,949.29* during the fiscal year ended August 31, 1943. Why? Because of scientific farming with strong emphasis on all aspects of soil conservation and proper use of the land.

Editorial aside

Enough issues of *USDA* have now appeared under the new editorship for you to conclude whether you like it or not. We in the editor's shop would like to know how you do like it. Express yourself freely; no holds barred; no punches rejected. Furthermore, we would relish contributions from all and sundry roughly within the general pattern of *USDA* material. We are not holding to any rigidly conceived, narrow standard; deviations are acceptable in so far as they are readable and important. Remember, of course, that our space is limited and that any periodical must have sufficient inflow of material from which the editor can select in order for it to be really good.

The prospects for the year ahead indicate that farmers in large numbers will continue to be subject to the Federal income tax for some time to come. Revenue needs of the Federal Government can hardly be expected to abate substantially in the near future. Farm income, too, probably will remain at high levels for some time. These statements are in an article, Income Taxes and the Farmer, in the BAE 1943 Agricultural Finance Review. Other articles in this annual review include Financial Management of Wartime Farm Income, Trend of Farm Real Estate Debt Continues Downward at Accelerated Rate, and New Federal Credit Available to Agriculture During 1943.

Our mimeographs

Two of the mimeographs distributed in limited numbers as a service from the editorial office of *USDA* require frequent revision. These are the Structure, Functions, and Origins of the Department of Agriculture and Its Constituent Agencies and the list of top USDA–WFA officials. Furthermore, a new page usually has to be added to the Abridged Chronology of Agriculture's Part in the War about every 2 months. As we maintain no mailing list on this material, remember to write in occasionally for revisions, if you require copies that are up-to-date in every detail. Very often changes are minor and old issues will serve. Each issue bears the date of the latest revision.

In order to combat the rising number of accidents brought on by war conditions, Pers. is organizing a Department Safety Council as the first step in expanding the Department Safety Program. The council will consist of representatives of all Department agencies. It will pool Bureau experience and trained men and more completely coordinate all bureau safety programs.

Unsolicited correspondence

Director of Finance W. A. Jump writes: "The articles, 'Farewell, Cattle Tick' and 'Veterinarian—Bureaucrat,' in the December 25 issue of *USDA* were fine examples of understandable and readable reporting on research accomplishments."

You might be interested in the chapter of Stewart H. Holbrook's book, Burning an Empire, which describes the great fire of June 1940 in the Chelan National Forest, and then gives an exposition of methods used effectively by FS to combat forest fires. While you are at it, look also into Stanley F. Horn's This Fascinating Lumber Business and find out about the amazing future of wood, a future in part based upon investigations at FS's Forest Products Laboratory in Madison, Wis.

Pectin from citrus waste

Crude citrus pectin can now be made from grapefruit cannery waste at low processing cost by leaching treated grapefruit peel with water and then drying and grinding the leached peel. G. N. Pulley, of AIC, with the cooperation of the Florida Citrus Commission, worked out this improved process. Grapefruit cannery residue contains from 2½ to 4 percent of pectin. During the 1942–43 season Florida canneries processed more than 17½ million boxes of grapefruit yielding more than 322,000 tons of peel and pulp. Less than 60 percent of this waste was used commercially, the remainder being dumped on pastures, groves, and wasteland. This is the source of the raw material that can now be used for making crude or pure pectin.

Food waste

In the Journal of Farm Economics for November 1943 (vol. 25, no. 4, pp. 848–59) William Kling, of FDA, sums up Food Waste in Distribution and Use. If you want all the facts in readable form, you cannot do better than read his effective presentation.

Wood heat for your home

The FS Forest Products Laboratory has developed a hopper unit attachable to ordinary home furnaces, in which baled or loose shavings, sawdust, chunk or stove wood, bundled edgings, slabs, or shop waste can be burned for heat. The hopper, requiring only standard, noncritical materials, can be built in one day by a skilled mason for around $50. Instructions for building and operating are in Mimeograph Report R1440, available from the Laboratory, Madison, Wis.

Errata

An error somehow crept into our cattle tick story, *USDA* December 25, possibly a Christmas slip-up in subtraction. The plague (cattle fever) first occurred about 150, not 250, years ago. Dr. James Mease, in a report on November 3, 1814, to the Philadelphia Society for Promoting Agriculture, made reference to a herd of cattle that was driven from South Carolina to Pennsylvania in 1796, after which the disease broke out in Lancaster County and elsewhere. If any of you are old enough you may remember that far back. If not, see Memoirs of the Philadelphia Society for Promoting Agriculture (v. 5, p. 280). Our thanks to W. M. MacKellar, of BAI, and Lyman Carrier, of SCS. So sorry.

February 5, 1944 Vol. III, No. 3

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USDA

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February 19, 1944

Farm Security Administration now

IN HIS OFFICE in the South Agriculture Building, Frank Hancock these days is busy directing FSA's course in 1944. The former North Carolina Congressman, who succeeded C. B. Baldwin as FSA Administrator, understands the job that FSA has to do.

Energetic and emphatic, the new FSA Administrator believes it would be "a national tragedy" to allow family farmers "to slip into landlessness and become work gangs," as they did during the depression. Under his direction, the task of FSA is to prevent this by providing credit, managerial guidance, and services to improve health and sanitation, among other things, that will enable low-income farm families to increase their production, improve their living, and rehabilitate themselves.

"I am a strong advocate of the individual family-type farm, and I believe the man who tills it should own it," he says. "The family farm has always been and should continue to be the backbone of American agriculture."

The family-type farm

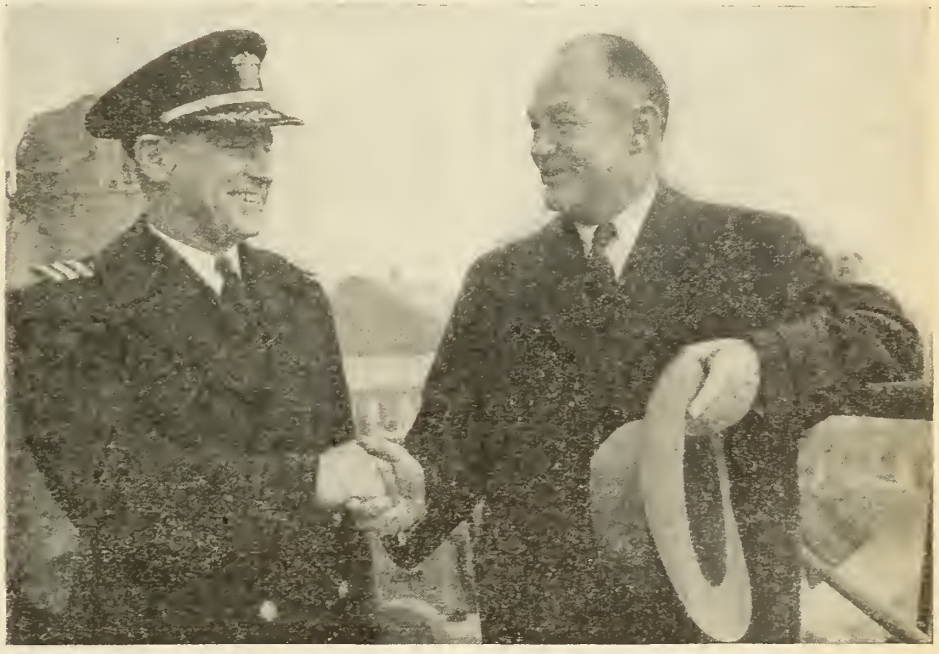
Hancock recently announced his first key appointments. He raised R. W. Hudgens from assistant to associate administrator, and named Jesse B. Gilmer assistant administrator in charge of the Cincinnati office and C. Stott Noble, former regional manager for the Home Owners Loan Corporation in Cincinnati, assistant administrator in Washington.

The new administrator is convinced that the FSA rehabilitation and tenant-purchase program is the best means of maintaining and restoring the family-type farm. Tenant-purchase loans are made to enable worthy farm renters or laborers to buy family-type farms of their own. Rehabilitation loans are for farm and home needs to help present owners or tenants gain security for themselves and produce more war-needed food.

"These loans, as in the past, should be made only to farmers who cannot get adequate credit from any other source," the Administrator says, "and should continue to be accompanied by supervision. If supervision is efficiently administered and applied, it is worth many times its cost."

FSA policy

The Administrator is certain the FSA program is as essential in war as in peace because of the incentives it gives low-income farmers. "Men do not work willingly when they lack the incentive of obtaining a better living for their work," he declares.



Comdr. Joseph H. Masse, U. S. N. R., and Secretary Wickard greet each other on the new Liberty Ship, the "American Mariner," anchored in Washington Channel for the Fourth War Loan Drive. At a Department bond rally last month on the ship, the Secretary said: "Since the beginning of the war, over 14,000 men and women from the Department of Agriculture have gone into the armed services and the merchant marine. Some of them have already made the supreme sacrifice . . . We owe it to them and their fellow workers to do all within our power to speed the day of victory by backing, with our money and our hard work, this cause that is so worthy."

A December report showed that 86.5 percent of Department employees are putting 9.8 percent of their salaries into the pay-roll savings plan. We are so close to the citation for distinguished service (90 and 10 percent), which would enable us to fly a distinguished service flag with the American flag on our Administration Building, that every employee must want to help put the Department across the finish line.

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As proof of the effectiveness of the program during the war, he cites the 1942 production record of FSA borrowers. Although they represented only 7.6 percent of all farmers in the Nation, they accounted for 9 percent of the total increases in production of the 9 most vital war crops.

The FSA is neither a relief agency nor a bank, Hancock says. While he expects the loans to be repaid, he says the FSA is not in business to make a profit. FSA's success, he feels, will be measured not by the amount of interest that can be exacted, but by how much can be achieved in family improvement at the least possible cost to both the borrower and the Government.

FSA's new boss

Administrator Hancock is 49 years old. A native of Oxford, N. C., he served in Congress from 1930 to 1938, and later was appointed a member of the Federal Home Loan Bank Board and a director of HOLC. He is a graduate of the University of North Carolina Law School and is the father of 4 sons and 3 daughters, 3 of the boys being in the Army.

One of Mr. Hancock's biggest hopes is that FSA's facilities and experience can be put to use in helping returning soldiers get established as farmers. He would particularly like to see special preference to service men in the tenant-purchase program.

Victory Gardens

In 1942, the Nation planted 15 million Victory Gardens. The 1943 goal of 18 million was exceeded by 2 million. In these 20 million gardens 8 million tons of food were produced, worth, conservatively, half a billion dollars. Yet probably a third of our victory gardeners were rank beginners.

The goal for 1944 is 22 million Victory Gardens—6 million on farms and 16 million in towns and cities. These gardens should be made to produce 10 million tons of food. The objective is to plant more, bigger, and better gardens to produce the nutritious food we vitally need. Farmers alone cannot solve the food problem. We all must help.

For details get circulars and bulletins from USDA or your State agricultural college or Extension Service. Specify whether it is a city, town, farm, school, or community garden in which you are interested.

Streamlined food preservation

Many loose ends in the home food-preservation field were securely tied together in recommendations adopted by the National Conference on Home Food Preservation held in Chicago, January 13–15.

The program was planned by an interagency committee composed of H. W. Hochbaum, chairman, and Miriam Birdseye, Ext.; Hazel Stiebeling and Ruth Van Deman, HNHE; Jessie Harris, Dist. Nutrition Programs Branch; Margaret Dreisbach, FSA; M. P. Driggs, Marcus Gordon, W. B. Esselen, WFA; and Edna P. Amidon, Office of Education.

Those present

Representatives from 43 State Extension Services, 15 State universities or colleges, 4 experiment stations, Federal Ext., Dist., FSA, HNHE, ARA, OES, OPA, WPB, TVA, Food and Drug Administration, and Office of Education met to formulate uniform recommendations on home food preservation.

Attending also were representatives of 14 women's magazines and 28 representatives of trades interested in the manufacture and distribution of home food-preservation equipment. Additional groups represented were State departments of public health and education, State nutrition committees, and home economics associations.

Work done

The work of the conference was divided into two parts. The first included presentation of the latest information on principal problems in home food preservation by recognized leaders in their respective fields. The second covered more detailed consideration of these problems and formulation of recommendations by six committees on safeguards in food preservation, canning supplies and equipment, community canning centers, supplementary methods of preservation, nutrition and health aspects, and educational programs.

Names of committee chairmen and recommendations adopted by the conference appear in an Ext. mimeographed report, copies of which have already been widely distributed. The recommendations serve as a guide in the 1944 home food-preservation programs and are available to every agency concerned.

Writing on "The Importance of Trace Elements in Biologic Activity," Dr. Oskar Baudisch, says, in the December 11, 1943, Journal of the American Medical Association (v. 123, p. 960):

> Elements present in our body in small quantities were considered, only about 20 years ago, as "negligible impurities." The first great active interest in trace metals was shown by the University of Wisconsin and the Agriculture Department in Washington, especially after it was found that certain severe blood diseases in animals were due to deficiency of trace metals such as copper, cobalt, nickel, zinc, manganese, or others. Some soil in the United States simply did not contain enough of one or several of these vital elements, and mineral nutrition deficiency diseases were the result.

Smile when you write that

William V. Doyle, writing in Printers' Ink for December 31, 1943, says, "You can't write as you speak!" and then proves it. He takes a simple sentence from a business letter, "You did not mail us your order," and, by the simple device of italicizing various words in it, shows how greatly its meaning could be varied when spoken.

"*You* did not mail us your order" implies somebody else did, while "You *did not* mail us your order" sounds argumentative and belligerent. On the other hand, "You did not *mail* us your order" implies that your correspondent may have sent it by messenger on horseback or via carrier pigeon, while "You did not mail *us* your order" strongly intimates the recipient of the letter is a dope and probably sent it elsewhere or put it in the trash box instead of the mail box.

If, however, you use the form "You did not mail us *your* order," the implication is that an order was mailed which belonged to someone else, while if *order*, the last word, is emphasized, the assumption is that something else, possibly a dozen guinea pigs or a monkey wrench, was mailed. When speaking, you can do such tricks with "No" that it means "Yes"; ask any fairly competent woman. When writing, you can't be too careful.

Be careful

This means that in writing to people we must always bear in mind the

difference between the written and the spoken word, which is immense. First, avoid certain words which you can *say* with no offense to anybody but which appear offensive written down. Second, use capitalization, underlining, punctuation, paragraphing, and sentence structure to help convey your meaning.

Smoke jumpers

THE SCIENCE of war and the arts of peace often meet. Now we learn that FS "smoke jumpers" and other parachute crews will be maintained on year-long duty for training and rescue work in the event of remote, back-country airplane crashes and other accidents in continental U.S. The "smoke jumpers," of course, are flown in and dropped to fight remote forest fires. The Army has especially requested continuance of their work.

FS's pioneer training center for parachute fire fighters at Seeley Lake in Montana has become a center for trainees in aerial rescue work. Here representatives of the Canadian Pacific Airways, as well as U. S. Coast Guard crews and Army officers, have received training. FS has also aided in training representatives from the Aeronautics Observation School in Canada, an institution which supplies men for rescue work in the Canadian wilds.

Wilderness patrol

Many miraculous rescues have been accomplished by difficult overland treks to scenes of crashes. But better service is achieved by dropping trained rescue personnel directly on the spot. Coast guardsmen who now respond to forest-fire calls and parachute down to fight fires will soon be stationed near wilderness areas along the Alaska coastline for such rescue work.

Volunteer conscientious objectors in the main made up FS's parachute crews this year. They have performed valuable and dangerous service in fighting fires in inaccessible mountainous country where blazes would otherwise soon have become unmanageable and very destructive. FS techniques of dropping fire fighters into rough, timbered terrain were closely studied by the Army when its parachute-corps training program was organized.

Crop Corps, 1944

TO MEET 1944 farm labor needs, which exceed even those of 1943, the Office of Labor and the Extension Service, which together administer the Farm Labor Program, estimate that at least 4,000,000 persons from towns and cities will be needed in 1944 to supplement the efforts of the regular farm labor force. The number includes 1,200,000 boys and girls under 18 years of age, and 800,000 women, many of whom have never before done farm work.

This emergency work force again will be called the U. S. Crop Corps (see insignia). The youth will be known as Victory Farm Volunteers and the women will make up the Women's Land Army.

Department employees can make a vital contribution to the war effort by spending their vacations working on a farm this summer. Farm workers will be needed at some time of the year in all parts of the country. If you can help meet this need, stand ready for the local call.

The eyes of history

WHAT WAS the experience of the Government with the food supply during the first World War? With wool? With farm labor? To answer questions like these, research staffs have constantly consulted World War I records. The National Archives alone in one recent year answered 237,000 requests for such information, the majority of them from Government agencies.

But, though there were many records of World War I, there were no readily available summaries of action taken by the Government in 1917–19. So that we would have better records of this war, President Roosevelt, a year or so ago, established a Committee on Records of War Administration to assist the Budget Bureau in getting the departments and agencies to produce reports of their activities through this period. Later, in accordance with a Budget Bureau recommendation, Secretary Wickard set up for the Department a War Records Project, which was subsequently transferred to a project staff in BAE.

History recorded as made

The staff is selecting and summarizing records of WFA and Department programs during the war. During the past year, farm labor, production goals, rubber, fibers, inter-American relations, the Consumers' Counsel, and organization problems were studied. One report, Inter-American Relations During the First Year of War, was published and others will be issued in the future.

The war programs of the Government, including those of WFA and the Department, will be the subject of much intensive study after the war, and the importance of these War Records Projects to such post-war analysis has been recognized. Already, for example, the Social Science Research Council has appointed a special representative as a clearing house between the projects and interested private scholars.

Organizational changes

ADMINISTRATOR'S Memorandum No. 27, Supplement 4, January 21, changed the names of FPA and FDA to Office of Production (Prod.) and Office of Distribution (Dist.), respectively. Their heads became the Director of Food Production and the Director of Food Distribution. AAA, FSA, and SCS became independent agencies in WFA, reporting to the Administrator or his assistants.

Dist. is responsible for all procurement, stockpiling, storage, and distribution of food by WFA, including that acquired via loan programs, and for preparing directives for foreign procurement of food. But CCC will procure and import food from Canada, and sugar from the Caribbean area, and will distribute food acquired via its loan programs or imported, as requested by Dist., at least until May 1, 1944.

Prod., acting through designated field agencies, will be responsible for distributing food allocated as feed, as well as for other production facilities.

An Office of Price (Price) was also established in WFA to supervise all functions relating to approval of maximum prices to be fixed for agricultural products or commodities and of price-support programs. Its director will prepare or review recommendations covering commodities to be supported and the levels and methods of support. Price will work closely with OPA and the Office of Economic Stabilization.

An Administrative Committee was appointed January 24 to facilitate execution of the above changes. It consists of Wilson Cowen, assistant administrator, chairman; Ashley Sellers, assistant administrator; Director of Finance Jump; Director of Personnel Reid; Solicitor Shields; and Emery E. Jacobs.

Brief but important

Appleby leaves

One of the best-known figures around the Department during the past 10 years, Under Secretary Paul Appleby resigned on February 1 to become Assistant Director of the Budget, succeeding Wayne Coy. Born in Missouri in 1891, Appleby was editor of and editorial writer for various magazines and newspapers in several States, 1913–33. He came to Washington in 1933 as Executive Assistant to former Secretary of Agriculture Wallace. In 1940 he became Under Secretary.

He was chairman of the International Wheat Council and twice visited Britain on special war missions. During recent years Appleby developed a strong interest in international relations affecting agriculture. He was a United States delegate to the United Nations Conference on Food and Agriculture at Hot Springs, Va., and later was appointed United States member of the Interim Commission, charged with formulating plans for a permanent international organization.

4–H Mobilization Week

Opening with the March 4 Farm and Home Hour, March 4–12 is to be observed as 4–H Mobilization Week. Rural girls and boys who are members or prospective members of 4–H Clubs will pledge themselves to the important wartime tasks set by the clubs when the Nation entered the war.

Nearly 1,700,000 rural girls and boys are members of the 4–H Clubs. Every county in the 48 States, Alaska, Hawaii, and Puerto Rico have clubs, and 160,000 or more farmers and homemakers serve as volunteer local leaders, trained and supervised by Ext. workers.

Duncan Wall, Assistant Director of Information, has resigned from USDA to become associated with a Washington farm news letter. Wall was the editor's boss and the editor sure will miss him.

Future of farming

Dr. Irving Langmuir, Associate Director of the General Electric Laboratories, brought up an interesting point about farming in his address before the third session of the Twelfth Herald Tribune Forum in New York City last November. He spoke first of the tiring, tedious jobs on farms and cited fruit picking as an example. He then went on:

> I can conceive of an orchard operated entirely without workers in which fruit-bearing trees can be cared for and cultivated and the fruit picked by machines operated and controlled by electronic devices.

This would depend on an adaptation of the electric eye and the technique of television. These should make possible the construction of a machine that will scan green trees, locate the red, the green, or the orange colored fruit, and then direct electrically operated arms to pick the ripe fruit, sort and cull it, convey and pack it.

That sounds fantastic? Well, Dr. Langmuir says that as long as there is even a difference of height or color between useful plants in a field and invading weeds, or between unripe and ripe fruit, such things are quite possible. Electronic devices could be rigged up to take the backache and hand callous out of weeding, just as well as for picking fruit. Who are we to confute so great a scientific authority?

Noreseal

A new cork substitute equal in value to the cork disk used in bottling food and beverage products has been announced from the Northern Regional Research Laboratory (AIC) in Peoria, Ill. It is composed of pith and fiber from farm wastes, together with animal or vegetable glues and sugars, and apple honey or glycerine. After a start was made, the research continued with the cooperation of food and beverage bottling industries, with tests under practical conditions.

Similar to cork in structure, as was carefully planned at the start, the substance reacts like cork in resistance to compression. Pith particles proved unsuitable as such because the air cells were larger and the membranes thinner than in cork. But, by cutting pith into fine particles and incorporating these in a liquid that would set and harden to an elastic solid, the new product was developed. It has been named "Noreseal."

Don't think the job was an easy one by any means. At least 30 laborious trials were made before anything at all promising resulted and 30 more followed before the product could be reproduced dependably. Dr. E. C. Lathrop, chief of the Laboratory's Agricultural Residues Division, told the editor of *USDA* the story of this when he visited there in November.

Unsolicited correspondence

From E. C. Auchter, Research Administrator:

> I want to congratulate you on the January 8, 1944, issue of *USDA*. You really have included a great deal of information in this little publication. I think all of the articles are excellent . . . but I do especially want to compliment you on your article on research emphasizing both the applied and the fundamental type of research.

From W. A. Jump, Director of Finance:

> We have noted recently, with very great appreciation, a considerable and yet discreet increase, of very high quality, in the informational material issued by the Department, reporting . . . some of the interesting and useful results of Department research work. . . . The current (January 8) issue of *USDA* is an example . . . Maycock's (R. W. Maycock, B&F) comment on this was: "This is the best issue of *USDA* I have seen. It has five excellent research articles, written in interesting style."

February 19, 1944 Vol. III, No. 4

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FOR MARCH 4, 1944

REA's Technical Standards Division

EARLY in the life of the Federal rural electrification program, REA's engineers realized they would have to start virtually from scratch to build new standards of rural electrification engineering. Before 1935, rural power lines, like Topsy, just growed—usually as extensions of urban power systems. They had grown so slowly that only 10 percent of the Nation's farms had rural electric service.

One of the earliest of REA's cardinal principles was that farm power lines ought to be designed, and made up of component parts designed, especially to meet rural problems. REA's efforts to establish this new branch of the engineering profession led to the establishment in 1940 of its Technical Standards Division.

That Division is a clearinghouse for ideas—ideas from everywhere about how to get electricity to farms at lower cost and to keep it flowing with dependable regularity, ideas about new types of equipment which will enable farmers to harness electricity to a greater number of farm tasks, ideas to encourage mass production of such equipment so that farmers can afford to buy and use it.

Every new rural power project financed by an REA loan has been a laboratory in which engineers carried on their studies. Out of the first hundred or so projects, standardized, efficient, and economical construction methods began to emerge. Rural power line costs dropped from a figure as high as $1,500 per mile before REA to an average of $750 per mile on REA systems just before the war.

Money savers

REA's 810 energized rural electric networks today constitute a laboratory in which the Technical Standards Division studies the building and operation of power distribution facilities. The Division is able to keep a check on many innovations and to glean ideas for further improvements.

One of the first products of this laboratory was a device to keep trouble on one part of a system from affecting the rest of the lines. A sectionalizing circuit breaker, which functions much as does the fuse in the electrical circuit of an ordinary city home, was one device which figured in this achievement. The Division stimulated several manufacturers who are now selling such breakers at $89 as compared with a previous cost of $120 when only one progressive manufacturer was interested in the matter.

It is estimated that 5,000 of the new circuit breakers were sold in one year before the war stopped their manufacture, and that 30,000 would be used if the rural electrification program which REA officials say is feasible should be carried out after the war. Total savings, at $31 each, would pay the salaries of the Division's engineers and office workers for some years.

A new, simple, easy-to-read meter was selling before the war for $2 less than meters previously in use.

Post-war plans

Although the Division is down to 12 engineers—with 23 on military furlough, of whom 20 are commissioned officers—it is proceeding with some plans for post-war developments. One of them, worked out with private researchers, is to use the same wire that delivers electricity to the farm home as a telephone wire also, connecting thousands of farm homes which otherwise might never have telephone service.

The biggest dream of Division Chief M. M. Samuels and his entire staff, though, is "electro-agriculture." The term was coined by Samuels to designate a plan of farming—of the not-too-distant future—in which electric power and especially designed electrical equipment will be the core of new methods of farming, and not merely an appendage of older methods.

A self-contained quick-freezer unit and cold-storage chest to retail for no more than $300, sterilization lamps for farm and household use, equipment for electrical treatment of the soil, an electric tractor to run on batteries which can be charged overnight from current delivered over rural power lines, electrical methods of killing the corn borer and boll weevil—these are a few of the things figuring prominently in the dream of electro-agriculture.

Some may scoff at the Division's dreams, but engineers who know what the Division has already done are not among them. Decisions of Technical Standards Committees established to approve or reject new devices or equipment have never been challenged by manufacturers. These committees' recommendations have been accepted in many cases by users outside of REA, and the result has been better and cheaper electric service and more profitable methods of farming.

Relations with the Hill

ON November 3, 1943, War Food Administrator Marvin Jones made some remarks in an impromptu talk to his staff that should have the attention of all of us. They drew the attention of the Hon. Wright Patman, who inserted them in the Congressional Record where you will find them on page A5039 of the November 5 issue.

The Administrator's remarks were precipitated by the fact that WFA began sending out checks on November 1 on account of the new dairy program, whereas it had been predicted none could possibly be delivered before December 1 or probably January 1, 1944. Mr. Jones congratulated his staff on this accomplishment. He then reminded them how important it was to foster good relationships with Congress and the public by such prompt and efficient actions.

When members of Congress criticize delays, the Administrator continued, it is not a matter of crankiness. It is the reflection of the sentiment of the country. Come right down to it, Congress knows what the people want better than any of us. "Of the million employees of the Federal Government, only 533 are selected by the people. These are the President, the Vice President, the 96 Senators, and the 435 Members of the House. Nobody else has the direct, vital connection with the folks, and this is a country of public opinion, especially when it is well thought out over any reasonable period."

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Show some speed

If you can speed up right answers to letters or telegrams from Senators and Members of the House, regardless of the action taken, you lubricate the wheels of government. The whole life of every department depends upon appropriations by Congress, which represents the people of the Nation. That is the essence of free government. To maintain good relations with Congress is not a matter of currying favor. It is a matter of giving Congress its due as another link in the strong chain of democratic institutions.

It is our duty accurately to interpret the laws passed by the Congress and to give that body close cooperation. Distortion of a statute so as to evade its honest intent is always reprehensible. If the provisions of a law appear to require change, the proper approach is to appeal to Congress to make the change, but once a decision is made about a legislative matter, it is up to us to abide thereby.

Promptness in carrying out legislative intent and administrative purpose is vitally important. Intentional delays or pigeonholing clog the machinery and hamper the operations of free government. The conduct of governmental operations in the spirit indicated by Judge Jones is important, if representative government is to be preserved.

Why milk wasn't rationed

IN *USDA* for October 30 we told about a new quota system that, it was hoped, would obviate the necessity for rationing milk. For to ration so highly perishable a product would be extremely difficult and expensive. One of the main reasons milk didn't have to be rationed was William C. Welden, assistant chief of Dist. Dairy and Poultry Branch. He was granted a well-earned meritorious service promotion for his work.

For he showed outstanding initiative and accomplishment in conceiving, developing, and operating the current control plan for the marketing of fluid milk. He obtained the interest and cooperation of the dairy industry and saved the Federal Government a huge expenditure that would have been necessary for rationing milk at the consumer level.

"Taxeater," eh?

In view of the situation we mentioned last October, the OPA spent a long time trying to develop a suitable and equitable system of milk rationing. But none proved practicable. So WFA determined to tackle the problem from another angle. Welden hit upon the plan of having the industry control the marketing of its own product within its own organizational structure. The plan was approved. It worked.

Moreover, the man who devised it was the main force instrumental in putting it into operation. He continues to direct it through some 140 market agent collaborators of his own selection. Had the program not been developed, milk rationing with all its expense and irritating complexity would undoubtedly have supervened. The program is one of Dist.'s most successful accomplishments and developing it lay distinctly outside Welden's regular duties. He undertook the task voluntarily.

USDA science

UNPREJUDICED observers both here and in Great Britain have called the Department of Agriculture the greatest research and educational institution in the world. As a Department employee you should try to familiarize yourself with the scientific achievements of this institution.

The Report of the Administrator of Agricultural Research for 1943 has recently appeared. It is a formidable document of 236 pages, only 10 of which are devoted to the ARA per se. The remainder consists of the annual reports from ARA's constituent scientific bureaus.

Pages 6 (bottom) to 10 are devoted, however, to a sort of check list—High Lights of the Year's Scientific Work. By all means read this material. If anything excites your interest, proceed to the report of the specific bureau concerned and get more details.

Here is a magnificent record of concrete and monetarily valuable achievement in the field of pure and applied science. The research of privately endowed institutions and of private industry is rightly and frequently admired and acclaimed. But we should also bring to the widest possible attention the distinguished work performed by those scientists who are our own colleagues and friends.

Southern farmers growing corn and peanuts may use a "3-in-1" planter. The USDA Tillage Machinery Laboratory, Auburn, Ala., worked out a planter that opens the beds and plants the seed at one time. This machine has been added to a commercial planter which also distributes the fertilizer.

What the other fellows do

DURING the last fiscal year the Commodity Exchange Division of Dist. Compliance Branch regulated trading in 17 commodities in 17 contract markets, involving the activities of 456 floor brokers and 576 futures commission merchants with 1,432 offices in the United States and 7 foreign countries. Continuous check on the operations of the commodity exchanges involved tabulation and analysis of half a million routine and special reports submitted by exchange members, brokers, merchandisers, processors, and other traders at the rate of 1,500 a day.

That gives you just a rough idea of the tremendous amount of work required in one small section of one branch of a large WFA agency. The legislation involved, originally the Grain Futures Act, was passed in 1922. It was amended June 15, 1936, and then came to be called the Commodity Exchange Act. The act was first enforced by independent agencies, the Grain Futures and then the Commodity Exchange Administration; the latter became part of the Agricultural Marketing Administration when this was created in 1941, and went with it into FDA (now Dist.) a year later.

The legislation regulates exchanges, commission merchants, and brokers who deal in futures contracts covering wheat, cotton, corn, oats, barley, rye, flaxseed, millfeeds, butter, eggs, potatoes, wool tops, fats and oils, and many other commodities. It provides for the elimination of market manipulation, corners and squeezes, and harmful trade practices. Commission merchants and floor brokers must register with the Secretary of Agriculture.

A dash of history

The custom of making contracts for the future delivery of agricultural products and other commodities is over a century old. During the fifties Chicago dealers began to make contracts several months in advance for the delivery of midwestern grain to eastern and foreign buyers. A lively trade in such futures developed. This grew rapidly during the Civil War and in 1865 the Chicago Board of Trade adopted rules recognizing such trading as a distinct commercial practice.

The annual volume of such trading now runs into billions of dollars. Futures prices on the large markets are quoted throughout the Nation and to a large extent determine the going cash

prices of farm products. A Federal law finally proved necessary to protect markets from abuses of the futures trading system with resulting losses to farmers, dealers, and processors.

Goodbye, playboys!

The legislation results in the supervision of speculation through the futures markets and curbs harmful speculation in actual commodities. The sale of futures is used widely as a form of insurance against severe price drops, without intent to deliver on the contracts. There are, of course, opportunities for abuses and fraud. Enforcement of the Commodity Exchange Act curbs this vicious tendency.

Large-scale price manipulation and fraudulent practices are largely things of the past. The day of the playboys is gone. Large traders must make daily reports of their transactions. The books of futures commission houses are periodically audited. Close watch is kept on all operations. Today this time-tested regulatory machinery and the well-established contacts with the markets, with the means of taking prompt action, help cushion the shock of wartime impacts.

Two-million-dollar memorial

"STRICTLY speaking, a bureaucracy is a permanent body of civil servants, selected and promoted on principles of merit and competence rather than on grounds of partisan service . . . The justification of the bureaucracy lies in the fact that it supplies from top to bottom an ideal that this country needs, the true soldier's ideal, namely, that great deeds may be done without hope of profit, either near or distant, openly and professed, or sneakingly and concealed." Charles Beard wrote that!

He might have been writing of Charlie Mann, who died a few weeks ago at San Dimas, Calif., after nearly 38 years of "soldier's ideal" service with the Department. For the past 20 years he had been in charge of the southern California headquarters of the work on handling, transportation, and storage of fruits and vegetables, conducted by the PISAE Division of Fruit and Vegetable Crops and Diseases. He specialized in refrigeration problems of California citrus fruits while in transit to eastern markets.

Technical Bulletin 857, Stage Icing in the Refrigeration of Oranges in Transit from California, of which Mann is senior author, describes a development of this work that paved the way for saving approximately a million dollars a year to the citrus industry alone, while making it possible to supply the consumer with more and better fruit. The saving on ice will amount to $750,000 a year, and is especially important now because ice is critically short, particularly in the South and Southwest.

Stage icing goes half way

"Stage icing" is half icing. Formerly refrigerator cars were cooled by filling with ice, from top to bottom, metal-frame baskets or "bunkers" at each end of the car. Mann and his associates demonstrated that half icing is sufficient. A shelf (or stage) is set across the bunker halfway between the car floor and the ceiling, and ice is placed in the upper portion only.

This method is merely one later development of improved refrigeration methods worked out by Mann and his associates. Other improvements are described in an earlier publication (T.B. 505, Refrigeration of Oranges in Transit from California) which says:

> The granting of lower rates on the various modified types of refrigeration service tested in this investigation has led to a general adoption of these modified methods in place of the more costly standard refrigeration. The results indicate that the use of the modified protective services represents an annual saving to the citrus industry in excess of one million dollars when compared with the former cost of refrigeration.

That is, there is a combined saving of two million dollars a year through use of these modified and improved methods! "The true soldier's ideal . . . that great deeds may be done without hope of profit . . ." Well, that's the way Charlie Mann wanted it. But in this work he has left a two-million-dollar-a-year memorial. You can't get away from that.—JOHN A. FERRALL, PISAE.

War prisoners in the woods

TRAINED in woods work by the FS, hundreds of German and Italian war prisoners are helping to overcome the wartime shortage of wood pulp.

One of the most serious difficulties in lumber and pulpwood production has been lack of labor. As part of the Timber Production War Project, FS has endeavored to locate new sources of manpower, and the war prisoners seemed a good possibility. There were difficulties, however. Under the Geneva convention, war prisoners cannot be impressed into hazardous occupations, and logging is rated one of the most hazardous.

To Don Rochester, FS training officer, was assigned the job of determining whether some of this manpower could be channeled into timber production. His first job was to convince authorities that pulpwood cutting could be done with reasonable safety. He also had to overcome the reluctance of pulpwood operators to employ the prisoners.

Axis' axes ring

With the cooperation of Army officials, he began work in Texas. He enlisted the interest of a group of German sergeants, who volunteered for training. To help overcome language difficulties, Rochester got an artist among the prisoners to produce sets of drawings illustrating the various tools and the technique of tree felling. Safety practices were stressed. After the sergeants had been trained, they were assigned to train the privates.

The men learned quickly and worked conscientiously. Three days of training usually sufficed. Several crews are now working in the South, and others are being trained for woods work in the Northeast. The men work 8 hours a day, with a 10-minute rest period each hour.

About that raise

PROMOTIONS usually go to the thinker rather than to the hard worker.

A job in a commercial organization, for example, is practically a bet. Your employer bets that he can make your services worth more to him than he pays you. If he doesn't then he is working for you, not you for him. Uncle Sam is almost forced to take a similar viewpoint.

Steady, conscientious work is taken for granted. To get promoted you ordinarily have to do something to convince your superior officer that you are worth more. A single idea, a change in viewpoint, may do this.

For example, most employers prefer a worker somewhat lacking in intelligence and all-around ability to one falling short in that form of self-reliant enterprise we call initiative. Particularly exasperating is the worker who never learns to find things to do, but who stands around waiting to be told to do this or do that.

"The reason we can't afford to pay Miss Jinks $1,800 a year," said an official, "is that we have to keep a $2,000 clerk to tell her what to do; and then check her work."

☛ The index to Volume II of *USDA* is now available from the editors.

How's your morale?

USDA workers, how is your morale? Do you ever feel that the "other fellow" is getting the "breaks" while you are left in the same old job at the same old grind with no raise? Do you realize that you have an important job to do? It may be as a messenger, a file clerk, or a supervisor, but it is important. We can't all be division chiefs or administrators any more than the Army can be made up of four-star generals.

All over our country people respect USDA as an agency upon which they can rely; and they appreciate the service your Department is giving them. You are a part of the Department; you help make it what it is.

Think of our boys in the front lines, on the job 24 hours a day. Do they unconsciously fall into the habit of arriving late on the job? Or of complaining that others receive promotions while they remain the "forgotten man"?

Are you a supervisor who watches your employees so closely that you comment on a minute's relaxation? Do you force your employees to work under pressure, decreasing their efficiency as well as the results obtained? Or are you a supervisor who gets results by setting an example of promptness and efficiency; whose personality radiates sincerity, efficiency, and responsibility? When you realize your responsibility, then you will become proficient and you will have unconsciously boosted your own morale as well as that of your fellow workers. It is contagious. Try it.

Brief but important

Grow more in '44

The first week in April will be Grow More in '44 Week, to emphasize to both farmers and consumers the need for continued all-out food production. Tribute will be paid to farmers' production records of the past 7 years and the goals undertaken for 1944. Consumers will be asked to volunteer, if possible, for Crop Corps work on farms and in food-processing plants and to grow Victory Gardens. Organized community groups will be asked to observe Grow More in '44 Week on local programs. Everyone in the Nation must cooperate if war food needs are to be met with our limited manpower and facilities.

☛ Use V-mail by preference.

This is important.

Salter honored

Robert M. Salter, PISAE Chief, was honored by Rutgers University, New Brunswick, N. J., with the degree of Doctor of Science at commencement exercises January 8. Referring to Dr. Salter's achievements and the activities of PISAE, Pres. Robert C. Clothier said:

> These activities are of the utmost importance to our national welfare in this period of world crisis. Under your direction they will continue to be of paramount importance when the war has been won and America faces the challenge not only of providing for her own people but that of helping other nations provide for theirs. For such research as yours yields fruits that know no frontiers or boundaries. Instead it serves to unite all people in the common purpose of human welfare.

Paper saving

A reader complained recently because the editor ran save-paper notices right while doubling the size of *USDA*. But its size has not been increased. The budget always provided for four 8-page issues a year. The present editor merely made these the first issue of the first month in each quarter (October 2 *USDA*, p. 6).

Meanwhile a study is being made that will result in better distribution, more readers per copy, and fewer copies being printed per issue. That and the omission of pictures will save a great deal of paper, and pictures are on the way out for the duration. It may be that a small part of the paper saving will be used to get out 6 or 8 of the 8-page issues a year, instead of just 4. But even that may not happen.

Vice President Wallace, speaking at Cleveland, as reported in the Survey Graphic of December 1943, said, among other things:

> One of the easiest and most certain ways of increasing farm production in the United States is through giving the small farmers a chance. These farmers are only partly employed. To do a real job of farming they need capital and leadership. The Farm Security Administration has proved that when these small farmers have both capital and leadership they step up production amazingly. In 1942 the Farm Security Administration clients increased milk production ten times as much as would have been expected. In 1943 they are doing even better. The small farmers have a great reservoir of labor which is crying to be used. The Farm Security Administration knows how to provide small farmers with the facilities to put their unused labor to work, and it has done a masterful job.

Miss Johnny Inkslinger

Miss Angela C. Janszen is "Johnny Inkslinger" for the Paul Bunyans at the FS's spruce logging camp at Edna Bay, Alaska. At a "family" meeting of FS in Washington, Miss Janszen recounted her experiences as chief clerk at the isolated "he man" camp where giant Sitka spruce is being logged for aircraft lumber. Formerly with the Division of Timber Management in the Washington office, Miss Janszen was on a holiday visit there from the Edna Bay logging camp, to which she was transferred last spring. Incidentally, "Angie" is the first woman employee of the FS to work at the Alaska Spruce Logging Project center.

Miss Janszen expressed nostalgic longing for the isolated logging community where crowded street cars, ration coupons, and other city workers' problems are unknown, and a desire to assist as far as possible in boosting production of airplane spruce for war needs. Although an office worker, she is becoming an experienced lumberjill, since keeping her bunkhouse warm devolves upon her own efforts.

Owing to the paper shortage, the edition of the biennial List of Bulletins of the Agricultural Experiment Stations for the calendar years 1941 and 1942 (Bibliographical Bulletin No. 4) has been drastically reduced. Although the publication will probably not be off the press before May 1, Department workers who need copies in connection with their work and who are not on the mailing list for this series should send their requests to the Department Library immediately in order to insure receipt.

A new fruit sirup for mixing drinks is a concentrated tangerine sirup developed by the AIC Citrus Products Station at Winter Haven, Fla. It's made from cull tangerines and said to taste like honey and fruit.

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FOR MARCH 18, 1944

M. L. Wilson, social engineer

THIS YEAR the Extension Service marks its thirtieth anniversary. At its head in the USDA today is one of the Nation's foremost proponents of agricultural democracy, M. L. Wilson (see photo). "M. L."—as Director Wilson is known in the Department, among college and farm leaders, and in the fields of science, nutrition, and food industries—has had perhaps as much to do with the basic planning and direction of departmental programs and American agriculture as any other person alive today.

Of the many who have worked with him and under him, all agree that there's never a dull moment around "M. L.'s" office, for he is continually forging ahead on plans that are oriented to an immediate future which is clearer to him than to them. He's as open and honest as the Plains country from which he came. In him are combined a practical prairie philosophy and an understanding that reflect constant association with the true leaders in the fields of science and learning. Some of his former students and associates speak of Director Wilson as an intellectual genius. He would prefer, probably, to be called what he is, a social engineer with both feet on the ground.

Basic farm technology

In 1914, M. L. Wilson was, as he is in 1944, a leading exponent of the philosophy that agricultural science should serve as a tool for building higher living standards among rural people. After getting practical experience as a tenant farmer in Nebraska and as a homesteader in Montana, Wilson began his extension career in 1914, as county extension agent in the grass-roots county of Custer, Mont. Today, more than ever, Wilson sees agricultural technology as a combination of science and education to provide the means whereby those who labor and live on our farms can free themselves from much unnecessary toil and drudgery.

From July 1, 1924, to July 1, 1926, Wilson served as head of the Division of Farm Management and Costs in the Department. While here he became a close friend of Dr. W. J. Spillman, original sponsor of the domestic allotment plan.

In the early spring of 1933, Wilson outlined the principles of the domestic allotment plan in a talk given at the University of Minnesota. In that same address, he prophetically called attention to the dangers of economic isolationism and the pitfalls it spelled for our agriculture. Had his warnings, and those of others like him, been heeded more seriously by the public at that time, the present cataclysm of world-wide war might have been avoided.

Versatile administrator

After organizing the first AAA wheat program and after farmer committees had been established along his pattern of grass-roots democracy, Wilson became director of the Subsistence Homestead Division, Department of the Interior, forerunner of the FSA program. On July 1, 1934, he was appointed Assistant Secretary of Agriculture, later becoming Under Secretary.

On February 1, 1940, he became Director of Extension Work. Outstanding among his more recent contributions is the Nation-wide nutrition educational program of Dist. As student and follower of both Lincoln and Jefferson, as farmer and teacher, with great confidence in the power and influence of education as the molder of freedom and progress, M. L. Wilson continues as "social engineer" and champion of democratic rural life.

How extension began

Seaman A. Knapp (1833–1911) is credited with having been the father of agricultural extension work. He was in charge of USDA's Farmers Cooperative Demonstration Work in the Southern States, 1902–10. The Smith-Lever Act of May 8, 1914, legally authorized and formalized cooperative extension work in agriculture and home economics. Supplementary acts followed.

Under the Food Production Act of 1917 the work grew rapidly. At this time it formed an administrative part of the States Relations Service, though the work had originally started in the Bureau of Plant Industry. On June 30, 1923, the States Relations Service was dissolved and the Extension Service was established under a director. It has formed part of the WFA, without change in its basic legal status or its cooperative work with the States, since the Administration was created.

Carleton wheat

MARK ALFRED CARLETON, pioneer cerealist of the Department (1894–1918), has had a wheat variety named for him. It was he who introduced and promoted durum wheats, thereby adding a new industry and millions of dollars to the agricultural wealth of this country.

The Carleton is one of two promising, new, rust-resistant varieties of durum bred for disease resistance, yield, and quality by Glenn S. Smith, one of PISAE's wheat breeders. The second of the new varieties has been named the Stewart for the first superintendent of the Langdon, N. Dak., substation. He early promoted the production of Kubanka durum in that section.

These new varieties embody the knowledge and work of many Federal and State workers during more than 40 years of research and breeding with durum wheat. While credit goes to Carleton for introducing durum in this country, Walter T. Swingle and Carl S. Scofield, also of the Department, studied this wheat in Europe and Africa. N. E. Hanson of the South Dakota, and H. L. Bolley of the North Dakota, Experiment Stations also introduced varieties.

New industry founded

Veteran employees of the Department will recall Mark Carleton, who died in 1925, as possessing a bulldog tenacity that made him hang on to a problem

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until it was mastered. So when he became interested in durum wheats, it was inevitable that sooner or later he would go to Russia and bring 'em back alive!

In the early 1900's he made heartbreaking tours of Russia's wheat sections and brought back Kubanka and other durum varieties. Then he led an educational campaign for production of this class of wheat in the drier western sections of the United States. This work was fundamentally important as it represented the establishment of a new industry here.

Then disease resistance

Carleton tested his many wheat introductions in different sections of the United States, and during the rust epidemic of 1904 found certain of them resisted the dreaded disease. In 1905 he started the breeding program which has borne fruit in the production of rust-resistant varieties.

Durum wheat is used principally for manufacture of a granular flour or semolina from which macaroni and other edible pastes are made. More than 35 million bushels are used annually for this purpose in the United States. Normally, too, we make large exports to Italy and other countries.

Unearned increments

ALL basic scientific discoveries pay a large unearned increment on the money invested in research. Another example of this appeared in Science (January 28, 1944, p. 85). Some time ago workers in EPQ developed their aerosol method of dispersing insecticides so that minute quantities went a long way. The method was economical and effective.

The solution of carrier and insecticide was contained under pressure in a suitable receptacle from which it was released as a mist. The carrier thereupon volatilized, leaving the insecticide suspended in air in an exceedingly finely divided liquid or solid state. This discovery was basic.

Now tomatoes

Now C. L. Hammer and H. A. Schomer, of PISAE, and L. D. Goodhue, of EPQ, report upon the use of the same method in applying growth substances to plants to modify their development, i. e., to delay opening of buds, prevent abscission of flowers or premature dropping of fruit, and aid in fruit setting. Preliminary results indicate that the method can be applied to this new problem.

When used on tomato plants, those treated grew far better than the controls. Development was faster and the number of fruits set was greater. One set of controls failed even to set fruit. Further studies will follow, but what has been done is enlightening as to the cumulative value of basic scientific discoveries.

Regional lab comes to bat

THE advantages of having "going" research organizations during times of national emergency are well illustrated by work being done in the Oil and Fat Division and the Analytical and Physical Chemistry Division at the AIC Eastern Regional Research Laboratory.

The Rubber Reserve Company requires about 90,000,000 pounds of tallow soaps for use as emulsifying agents in the preparation of synthetic rubber. Only certain grades of tallow will meet the requirements of this use, most of it being too unsaturated.

This latter property of the tallow causes the rubber-making reaction to be unpredictable and leads to the upset of operation schedules in the huge rubber plants. At present the only sure method of dealing with the problem has been to resort to the use of the highest grades of tallow, even edible tallow.

More about tallow

The Oil and Fat Division was ready to undertake the preparation of sufficient quantities of the various fatty acids from tallow, to enable the rubber men to find out just which ones are troublesome. Some fatty acids which have been considered laboratory curiosities are being prepared in quantities of 1 to 5 pounds for this work.

At the same time, the Analytical and Physical Chemistry Division had the necessary equipment and trained personnel to undertake the investigation of the composition of both satisfactory and unsatisfactory types of tallow by means of the spectroscope. It is hoped these researches, when completed, will help to increase both the available food fats and the supply and quality of synthetic rubber.

Science for February 18 says:

The William Herbert Medal, awarded annually by the American Amaryllis Society for outstanding achievement in the field of the *Amaryllidaceae*, has been presented to Dr. Henry A. Jones, principal olericulturist (one who specializes in the culture of edible vegetables) at the station at Beltsville, Md., of the U. S. Bureau of Plant Industry (now PISAE), in recognition of his "important contributions to the cytology, genetics, breeding, and culture of the onion, *Allium cepa*.

Item from Alaska

A LETTER just kicked in from an old friend, R. B. Gray of Homer, Alaska. He is now a trapper and a truck farmer up that way. He occasionally sends mink and ermine pelts. But, oddly enough, early in the century he worked in the old Bureau of Entomology when Dr. L. O. Howard was chief.

Gray well remembers the funny little antique red-brick building in which the Bureau was then housed. But he developed a desire for the great open spaces and went to Alaska to find them. He found them and also the life he wanted to live. Always a bachelor, he makes excellent preserves, cooks astoundingly well, so he says, and has a hearty respect for Department publications.

He has not gotten entirely away from the Department either. For he is right now writing a series of articles for the extension service in Alaska. The articles are prepared to aid tenderfoot gardeners up there. A carbon of one he enclosed with this most recent letter deals with growing vegetable seed in Alaska. It is being passed on to Ext. for a look.

Dr. L. O. Howard

Mention of L. O. Howard reminds us not only of his great career and of the fact that he was chief of the Bureau of Entomology from July 1, 1904 (when it was created), until October 15, 1927. More remarkable than that, his career with the Department began in 1878 and he worked up to be head of the Division of Entomology in 1894.

Quite as interesting as anything said so far is the fact that Dr. Howard is alive and his mind is clear as a bell. He usually winters at 45 Pondfield Road West, Bronxville, N. Y., and is always glad to see and hear from Department people. You will find a brief, well-phrased letter from him in Science for February 25; it is a tribute to the late James McKeen Cattell.

Dr. Howard's memory is sharp and clear. He doesn't ramble when he talks. Though well along in his eighties, his answers to questions are direct and concise. If he doesn't know, he says so and that is that. If he does know, he knows exactly.

Called upon a while back to read a long manuscript on the Department's work in his field, he did so like a far younger man, made the proper corrections, and returned the paper with a brief letter. He is in all respects a most outstanding person.

Under Secretary Hill takes oath

GROVER B. HILL, who became Under Secretary of Agriculture on February 29, is a well-known Texas rancher and cattleman. He was prominent in working out AAA's original cattle program, became its regional director for the Southwestern States in 1934, and came to Washington to head the Southern Regional Range Program in November 1936. He was appointed Assistant Secretary by President Roosevelt 3 years later. In July 1943 Judge Marvin Jones made him First Assistant War Food Administrator.

Born in Gainesville, Tex., April 3, 1889, Mr. Hill a year later moved with his family to Amarillo. He learned ranching as a cowboy, but also became an authority on the other major phases of agriculture. He has intense interest in research and was a motivating force behind the Victory Garden movement. Fishing and hunting are his hobbies, though he has neglected them since Pearl Harbor.

Mr. Hill is large in frame and of commanding figure. He still wears his Texas hat in Washington. His straightforward manner has made him one of the best-known and most popular men in American agriculture today. In the photo, left to right, are Vice President Wallace, Secretary Wickard, Under Secretary Hill, Chief Thatcher of Plant and Operations, and War Food Administrator Jones.

A branch library in Philadelphia

MISS SARAH W. PARKER, the pleasant and capable librarian in charge of the USDA Philadelphia branch library, in a downtown office on Walnut Street, told the editor about branch-library activities the other day. She was still using her secretary in part as a messenger to carry books and periodicals around on call, but she will get a real messenger soon. This branch library serves 12 States, 200 Department offices, and hundreds of individuals.

It issues an informative little mimeographed news letter every so often to acquaint its clients with the photostat and loan services it provides, the nature of its new and important acquisitions, and the periodicals to which it subscribes—not to mention frequent book reviews. Its relations with local libraries are excellent, and exchanges with them, with other Library branches and subbranches, and with the Library in Washington go on merrily all the time. Many individual Department workers are known to the library by the informative and often amusing character of their notes, requests, and phone conversations.

What happened

Executive Order 9069, February 23, 1942, consolidated our widespread library units into the present Department Library which now has 9 branches, 14 subbranches, and 10 stations. The branches give better service in the field from a much larger reservoir of books and periodicals than was possible before. USDA employees from Madawaska, Maine, to Ronceverte, W. Va., depend heavily upon Miss Parker and her efficient assistants. The Upper Darby branch and the Philadelphia sub-branch are now one.

Department librarians contrast ever so favorably with the dour-faced, forbiddingly schoolmarmish ladies featured in The Human Comedy. They seem to be awfully nice people nowadays.

Dr. Browne, medalist

ON May 30 the Nicholas Appert Medal Award for 1944 will be presented to Dr. Charles A. Browne, of AIC, at the Chicago meeting of the Institute of Food Technologists. Eligibility for the award is based on preeminence in the field of food technology and on contributions to the progressive development of food manufacture and processing.

Dr. Browne began the study of carbohydrates in his undergraduate days at Williams College. He received his doctorate at Göttingen and was later successively chief of the Sugar Laboratory of the old Bureau of Chemistry (1906–07), chemist of the New York Sugar Trades Laboratory (1907–23), chief of the Bureau of Chemistry (1923–27), chief of chemical and technological research of the Bureau of Chemistry and Soils (1927–35), and supervisor of chemical research in the Bureau of Agricultural Chemistry and Engineering (1935–40). He retired in August 1940 and has since been a collaborator in AIC.

Browne's citation

His citation reads in part:

He has been an unfettered investigator who struggled to remain free of administrative burdens, finally culminating in his appointment as supervisor of chemical research. He is justly deserving of the honor of the Nicholas Appert Medal if only for his researches and contributions to sugar technology, constituting as they do today an imposing and vital section of the literature and technology of carbohydrates.

Dr. Browne is the author of a standard volume on sugar, Physical and Chemical Methods of Sugar Analysis.

William E. Taylor

WILLIAM EVERETT TAYLOR—"Billy" Taylor to old-timers in the Department—retires from PISAE July 31 after almost 51 years of continuous service. "Billy," one of 9 children of Scottish parents and himself a native Washingtonian, was born April 9, 1878.

He was appointed by Secretary of Agriculture J. Sterling Morton as a messenger in the Weather Bureau December 8, 1893. He transferred to the Division of Vegetable Pathology and Physiology January 1, 1896, before there was a Bureau of Plant Industry, and when that Bureau was finally organized in 1901 Mr. Taylor became clerk to its Chief, Dr. B. T. Galloway.

He has been with the Bureau ever since, progressing successively to his present job as its Chief Clerk. When Secretary Morton had special jobs he wanted done he always sent for "Billy."

Billy remembers when the lower end of the Department's grounds were dotted with small lakes stocked with goldfish propagated by the Bureau of Fisheries. Aided by thread and a bent pin, Billy kept his mother in goldfish.

After retirement, Mr. Taylor expects to live in a beautiful home he and Mrs. Taylor purchased in October at Colonial Beach, Va., where he hopes to get in some good hunting, swimming, fishing, and crabbing. He started accumulated leave this month, when old friends in the Department presented him with a purse, the contents of which are to be used to replace a wrist watch he lost recently.

Smoke jumper hunts Japs

PUT Montana Bill Musgrove down on your list of heroes, says a press dispatch from the South Pacific.

More formally known as 1st Lt. Bill F. Musgrove, a former FS parachute jumper, Montana Bill landed at dawn, November 20, the first day of the invasion of Tarawa. He went to work on the Japs with a machine gun on his landing craft until it was knocked out. Then on the beach he took a Garand rifle and launched a one-man war on the Nip defenders. For two days Montana Bill hunted snipers relentlessly. On the third day he procured some TNT and went about blasting Jap pillboxes. When things quieted down he combed entrenchments for additional targets.

Musgrove enlisted in the Marine Corps in January 1942 and was commissioned the following August. Prior to the war he served as a guard on the Lewis and Clark National Forest for 6 years, and during 1941 was a member of the FS "smoke jumper" crew. Before entering the Government he attended Montana State University.

According to the FS, Bill is about 6 feet 2 and weights 200 pounds when thin. He joined the Marine parachutists but got so heavy they kicked him out. He was assigned to the amphibian tractor outfit, and was supposed to deliver supplies to the landing parties. But on Tarawa his tractors and outfit were destroyed—so he went hunting.

"Pickling" wet chicken feathers with salt and hydrochloric acid (dissolved in water) preserves them for several weeks. This cheap and efficient treatment, developed by BAI, makes possible the industrial use of millions of pounds of wet feathers formerly wasted or used as fertilizer. They are a byproduct of poultry dressing plants.

Research scores again

IF IT rains heavily during the cottonseed harvesting season, the crop suffers damage. Much cottonseed oil is lost. The Southern Regional Research Laboratory (AIC) at New Orleans has announced a method for reducing this loss by treating the seed with ammonia gas before storage. This retards the formation of excessive and undesirable fatty acids in the oil of the stored seed, thus extending the storage period without excessive deterioration.

The process is simple and requires no special equipment. The chief cost is that of the chemicals used and runs from 75 cents to a dollar per ton of treated seed. While the free-fatty-acid content of untreated moist seed rises sharply during 6 months of storage, that of treated seed does not, and it is large quantities of free fatty acids that cause subsequent refining losses.

The investigation has been carried through both the laboratory and the pilot-plant stages. Large-scale tests are planned during the next crushing season. Cottonseed oil mills will cooperate. Should these tests also turn out well, much more oil will be recovered next season and the period of crushing can be extended.

Brief but important

Safety pays off for SCS

One of the finest achievements any Department agency has reported was that in SCS during 1943—for the first year in the history of SCS's employee safety program—no accidental deaths occurred. This all-time record is particularly enviable when considering the present rapid personnel turnover and the necessary use of many hurriedly trained new employees.

SCS employees' lost-time injuries also have been drastically reduced. From a high of 28 injuries for every million hours worked in 1936, the rate was progressively reduced to a low of 7 injuries in 1943. As a comparison, this means that 3 out of every 4 employees disabled in 1936 were available in 1943 to push SCS's job of increasing our vital wartime food production.

Many rural areas have formed volunteer fire departments to cope with the increased danger of farm fires in wartime. Ext. estimates that there are now about 10,000 of these companies.

Who got there first?

In late 1931 the structural formula of rotenone and related compounds, insecticides which became extremely valuable, was established by La Forge and Haller, Department of Agriculture chemists. Their paper was received by the Journal of the American Chemical Society on November 30, 1931; it was published February 5, 1932. Structural formulas are diagrammatic architectural monstrosities that have to be determined before any chemical compound can be properly understood.

Meanwhile, however, a German investigator had begun an investigation on rotenone in 1926. In an article submitted to Liebig's Annalen on February 10, 1932, and published the following March 4, he submitted a formula identical with that of La Forge and Haller! The German investigator received a copy of the La Forge and Haller article as he was correcting the proofs of his own.

That did not end the matter, though. For an Englishman, Robertson, submitted to the Journal of the Chemical Society of London, on February 27, 1932, an article giving the same identical formula La Forge and Haller had worked out.. He was even able to show that he had communicated his views privately to an Oxford professor before he saw the Americans' paper. Robertson's article was published May 1932.

But in the Berichte of the German Chemical Society for June 8, 1932, there was also a paper by certain Japanese investigators who gave a structural formula for rotenone identical with that proposed by the Department of Agriculture investigators who gained so narrow a priority. Here was the same discovery announced by 4 different groups of investigators in 4 different countries, almost simultaneously, a happening probably without parallel in the history of chemistry.—T. SWANN HARDING, in American Journal of Pharmacy, August 1943.

Though WFA has alloted some 275,-252,000 pounds of vegetable seed to farmers and gardeners this year, some seed will also go overseas to our Allies. Seeds make a very economical form of food for export. A pint of rutabaga seed can produce 500 bushels of this vegetable; only 1 ounce of tomato seed can yield 5 tons of tomatoes.

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FOR APRIL 1, 1944

Three anniversaries in nutrition

THIS IS a special birthday year for HNHE. It reaches the age of 21.

This year is also a golden anniversary in the science of human nutrition. Just 50 years ago USDA began its first study of human nutrition with a $10,000 grant from Congress. From that start, in time, came an Office of Home Economics, then a Bureau of Home Economics, and nowadays—with accent on nutrition—the Bureau of Human Nutrition and Home Economics.

This is also a centennial year because 100 years ago Dr. W. O. Atwater, who planned and initiated this Federal research, was born. The photo of him was taken about 1900.

Atwater might be called the father of American nutrition. Researches he began in Connecticut in 1875—when he became director of the first agricultural experiment station in the United States—were first of their kind in this country. They developed the methods which came to be used by scientists the world over, especially in the energy aspects of human nutrition.

"Firsts"

Atwater's career was starred with "firsts." With his research partners, E. B. Rosa and F. G. Benedict, Atwater designed the famous calorimeter, first of its kind for human-nutrition research. In this copper-lined chamber, college students took exams, pedaled a stationary bike, and did other work with mind and muscle. Meanwhile, Dr. Atwater studied their metabolism and the quantity of energy spent. One of his assistants, young Henry Clapp Sherman, is now Chief of HNHE.

Atwater published in 1869 the first analysis of an American food—corn. In a USDA bulletin of 1896 he and associates published tables showing the composition of familiar foods. These were first of their kind in the United States, and for years this bulletin was a bible for nutrition workers the world over.

W. O. Atwater, pioneer in U. S. nutrition science. The fact that you are so well fed now during wartime is partly attributable to the researches of this man and of his able successors in BHE and HNHE throughout the years.

In 1889, Atwater organized the Office of Experiment Stations and became its first director. In his first annual report, he said: "In studying the food of animals we have no right to neglect the food of man."

The newly created set-up enabled him to carry out his plan for cooperative studies linking State experiment stations, private agencies, and Federal laboratories. One of the early cooperative ventures was the making of surveys to show what people in different areas actually ate.

Goals

So comprehensive and clear was Atwater's blueprint for nutrition research that today much of the foods and nutrition work in HNHE stems from that plan.

Main goals were: Find out what the body needs in its food; what nutrients, and how much of them, different foods contain; and how the body uses these nutrients. Then find out what foods people are accustomed to eat. Learn what foods, and what methods of preparing them, will furnish the most economical and healthful diet. All this, said Atwater, leads up to the fundamental question: How can national food production be made to yield best returns in economic progress and social welfare?

A sampling of work shows how moderns are still carrying forward the Atwater tradition in Beltsville laboratories and Washington offices of HNHE:

The protein-research laboratory breaks complex proteins apart into their 22 or more constituent amino acids. Eight of these "building blocks" are essential to normal nutrition of man and the aim is to find out how different foods rate in quality of protein. Another aim is to show what foods to combine to provide the diet with high-quality protein. Soybean, peanut, and cottonseed flours, for instance, can be used to supplement cereals to provide proteins of high nutritional quality—a finding with far-reaching possibilities for relieving a world shortage of protein foods.

Achievements

In the nutrition laboratories common foods are assayed one by one, to determine their vitamin and mineral values. Rat-feeding, chemical, and microbiological methods are used. The foods are cooked in typical American ways to find out what losses occur in the cooking.

Dietary studies started in 1894 are still growing in scope and importance. The most comprehensive picture of food habits any Nation has ever gained was drawn from the food data gathered by HNHE and the Labor Department's Bureau of Labor Statistics, as part of the Consumer Purchases Studies in 1936.

Analyzed by the home economists, these data showed that only one-fourth of America's families had really good diets, and more than one-third were ill fed. To help families buy or grow kinds of food needed to provide good diets, the food economists keep up the work, begun more than 10 years ago,

of issuing family plans keyed to changing conditions and different cost levels.

No country can be better fed than its food supplies permit. The food economists recently charted the nutritive value per person of our country's food supplies from 1920 to date and learned: America is better fed, even during a war, than it was in the 1930's. In general the Nation's food provides an adequate diet, if civilian supplies could be shared equably.

As this economic information gains use in planning, planting, and marketing, it enables USDA to answer in part Atwater's fundamental question: How can we get best returns from the land and the labor we spend on it?

How to start an orange industry

"NEVER see an orange without thinking of William Saunders," remarked the Old Timer, reflectively. "Nobody ever called him Bill, I guess."

"I know I didn't," agreed Mary Louise, cleaning lunch debris off her desk. "Was he another old timer?"

"And how! He was probably the first fruit man employed by the Department. But what fixes his place is the fact that he played the big part in putting down the foundation for the present orange industry in California; he brought in the navel orange."

"Gee! I hope he got a commission!" said Mary Louise.

"Well, anyway, they didn't fire him. It was back in 1869 that Commissioner Capron brought to Saunders a letter from a missionary named Schneider at Bahia, Brazil, telling about a fine seedless orange there. Saunders at once wrote for plants. They came—dry, worthless sticks. Putting on his thinking cap, he wrote the missionary to hire a plant propagator to bud a few of the trees, then send them and the bill to the Department.

Gold for California

In the course of time 12 budded navel orange plants arrived. The Department never found out who paid for the budding—Uncle Sam didn't. There were some orange trees in a greenhouse that stood on what is now the north lawn of the Administration Building West Wing. Buds from the Bahia plants were inserted on these.

In 1873 two of the resulting plants found their way to the yard of the Tibbets home in Riverside, Calif. When they bore fruit its excellence and seedlessness attracted wide attention. Propagating material was soon in great demand, and the navel orange spread rapidly. That's how to start a billion-dollar orange industry which has brought more money to California than the State obtained from its fabulous gold mines.

How it got its name

"From the standpoint of beautiful surroundings and all that," went on the Old Timer, "orange growing has it all over gold mining."

"Check!" agreed Mary Louise. "And now for the $64 question: Why do they call it the Washington navel orange? Why not the Bayou?"

"Bahia," corrected the Old Timer. "Probably because the California growers were like you—couldn't pronounce Bahia. At first they called the orange the Riverside navel, but as it spread into other sections growers apparently thought Riverside was getting too much advertising from it, so they began to call it the Washington navel."—JOHN A. FERRALL, PISAE.

Urban woodland

THE OTHER DAY the editor wandered off a sylvan lane in downtown Philadelphia to find himself among the tall timbers of a big office building. Here he discovered Dr. Hardy L. Shirley, Director of the Allegheny Forest Experiment Station, one of 12 such FS stations maintained under the McSweeney-McNary Act of May 22, 1928. Dr. Shirley promptly took him on a tour of the woods.

The station's 1943 Annual Report, a mimeographed document, is intensely interesting. Among other things it actually makes charts and *even bar graphs* talk to you. The latter are dull, forbidding things usually, but here they are not only interesting but are so presented as to seduce the reader and carry him along.

The report opens with a digest of such routine activities as the installation, servicing, and inspection of fire-danger meter stations in the 11 Northeastern States in this region, and a concise account of war work on determining the region's total lumber production, augmenting tannin supplies, aiding the Timber Production War Project, and so on. But, in addition, extra effort and creative thought have been devoted to other technical and research projects.

Research allure

Not above coining a near epigram, the writer remarks: "Research can be as unpredictable as a courtesan, and in some respects it has the same allure." The research laboratory in this instance covers the region's 11 States which produce almost 2 billion board feet of lumber annually. To detail all that was done is impossible, but a few items will be cited much too briefly.

It has been shown that changing the cutting cycle, from clear cutting at 55 to partial cutting at 30 or 20 years, practically doubles pulpwood production. It has been demonstrated that sending small trees to war wastes man-hours of labor, space in trucks, and results in a low output of poor quality. Labor output is increased by selective cutting, so much so that Pennsylvania woodsmen could have produced almost 40 percent more timber for war use in 1942 had selective cutting been universally practiced. Proper "bucking" (cutting the tree into logs) saves 16 percent of the logging time and adds several additional dollars to lumber value.

"A prosaic experiment, intended to solve a rather dull and simple problem"—how to reforest abandoned farm land with hybrid poplar—resulted in findings that will be of aid in the whole field of reforestation and offer a new outlook for forest genetics. Turning the sod over and weeding newly established hybrids worked wonders. Experiments with grass-resistant poplars pointed the way to finding grass-resistant maples, ash, conifers, and other species for abandoned fields and pastures.

For 30 cents

Properly timed fertilization hardens nursery stock; a proper "diet" builds resistance; this may save $3 an acre in planting costs for an outlay of 30 cents. A survival of 94 percent was attained when loblolly pine trees had been hardened with fertilizer during the dormant period.

Quicker healing of tree wounds was promoted by the use of high-nitrogen fertilizer along with lanolin dressings. New methods of selecting good tree seed, assuring sound parentage for future forests, will result in saving thousands of dollars when large post-war planting programs begin. The report ends with an impressive list of scientific publications issued. All this from only one of a dozen experiment stations in only one USDA agency—FS.

List of officials: If you want an up-to-date list of top USDA–WFA officials, we shall try to supply them from the limited quantities available. Limit number requested.

Rival WFA?

A RETURN form postal card, dated March 1, 1944, and indicating that a New England schoolmaster would be glad to use a book called "Food Saving and Sharing" in instructing 47 of his pupils, caused a minor stir among some WFA employees the other day. For it was addressed to the "United States Food Administration, Washington, D. C." and one excitable individual started a hunt for the rival food administration.

The form postal card had been issued in 1918 as part of the distribution scheme for the book mentioned. The volume was about a hundred pages in a paperboard cover. It was prepared under the direction of the U. S. Food Administration, was issued by a private publisher, was sold at a fixed price of 24 cents, and was intended for use in the public and high schools. It appeared in November, just after the war ended.

Boys and girls of America were admonished that they must save food for their "unhappy friends across the sea." These people faced starvation unless they could look to America for food until the next harvest. The slogan was: "America's food pledge 20 million tons; prove your Americanism by eating less." C. F. Langworthy, Chief of USDA's Office of Home Economics, helped prepare the book; the present Chief of HNHE, H. C. Sherman, then professor of food chemistry at Columbia, read and approved it.

Only two "vitamines"

The small volume contained an excellent concise discussion of human nutrition science as it was in those days, those dear, past simple days when one spoke of "both kinds of vitamines"—spelling the word with an "e"— for that was all there were to worry about then. The book also evolved the policy of food sharing with Europeans and told what we had already done and what we had yet to do in providing food for ravished Europe.

Some items in it retain their interest. Thus we read: "Some of us have fallen into the habit of being careless and extravagant in the matter of food"—and we are still trying to learn how not to waste food over a quarter of a century later. Fruits and vegetables were not then considered important mainly for their vitamins, because "vitamines" did not bulk large in nutrition science as then known.

Send 'em sugar

It was suggested that we send Europe concentrated foods in the main—beef, pork, sugar, and wheat. We had sent Europe 141,000,000 bushels of wheat the previous year. Our beef export to Europe had increased from 1 or 2 million to 96 million pounds in one month, and our export of pork from 50 to 308 million pounds. Whereas the United States and Canada together had been accustomed to send the Allied countries 5 percent of their food, we sent 11¾ million tons of food across during the last year of the war, making up half their food deficit.

The School Garden Army had 1½ million "enlisted soldiers," and each boy and girl could wear a little bronze badge with "U. S. S. G. A." on it. Such slogans as "Uncle Sam's in need, pull the weed, plant the seed," were popular. Also: "My Tuesdays are wheatless, my Wednesdays are meatless, I'm getting more eatless each day!"

Well, it was a great war. But we won. We are winning again. Let's do more with the victory this time than we did last, though.

Eat the woodpile?

DO YOU imagine you will live long enough to take a saw out into the backyard and hack a steak off a log of firewood? Well, hardly. But J. A. Hall (FS) has expounded (The Land, v. 3, no. 1, 1943) the art of making yeast protein from wood sugar. That constitutes a sort of magic by which the principal nutritive element of steak can be prepared from sawdust.

Sawdust, chips, and shavings, when treated with dilute sulfuric acid under steam pressure at fairly high temperatures, yield simple sugar, most of it glucose or ordinary corn sugar. You get about 1,100 pounds of sugar from a ton of wood. Then, by adding 250 pounds of ammonium sulfate *or* 100 of urea *and* 50 of superphosphate, 500 pounds of yeast can be grown on the sugar, alcoholic fermentation being prevented.

Feed 'em sawdust!

Yeast consists to the extent of one-half of good quality, very palatable protein that is also rich in vitamins. Here is a possible source of cheap protein produced without putting a plow in the ground or a bit of feed into an animal. In fact it can be a source of protein feed for livestock, especially when combined with cereal grains. The incorporation of cheap wood sugar and cheap protein into the farm economy in this way is primarily an industrial problem. The process, however, is not unduly complex.

But, in addition to the 1,100 pounds of sugar mentioned above, some 500–600 pounds of lignin are formed. This is a nice, clean, brown powder chemists adore; it does have high potential worth and will come into its own before long. Then a quarter of the sugar formed is xylose, which human beings cannot digest but which is a fine raw material for making furfural and plastics.

Perhaps of most immediate importance is the fact that from the wood sugar we can get alcohol. Thus waste wood may become one of the most important sources of industrial alcohol, needed for synthetic rubber and many other vital uses. It's a great world, but science makes it great.

Painless weeding

WHEN, in the summer of 1942, the first crop of guayule seedlings began to grow in the FS Salinas Nurseries of California, weeding was done by hand. But as the project increased, the weeding job assumed such magnitude that it became impossible to get enough labor to handle it. Here a new major production cost and a bottleneck appeared in one. The prospect of further weeding in more nurseries then planned became a headache for Bernard J. Abrahams, nursery manager.

After all, he had to control those weeds, so he cast around for some simpler, cheaper method. He found that local farmers were using oil in various mixtures to discourage weeds in carrot fields, so he tried oil sprays on the guayule beds. Within certain limitations it killed the weeds but left the guayule unharmed. Further tests confirmed the fact that a painless method had been found which removed the backache from weeding.

Use of the oil-spray method also cut the cost of weed control to one-half or even one-fourth that of hand weeding. Several hundred thousand dollars were saved on one year's weeding operations. Weeding labor requirements were reduced to manageable size. Mr. Abrahams justifiably won a meritorious promotion as a reward for his initiative, a fine example of effective public service.

The legend for this photograph is not: When Do We Rob the Bank? Nor is this the House of David baseball team with a substitute pitcher. It is Dr. Harvey W. Wiley and the scientific staff of the Division of Chemistry about 1884. In the usual left-right fashion the gentlemen are Fuller, Wheeler, an unknown visitor whose tendency to keep his hand on his watch should not be misinterpreted, Richards, Knorr, Trescott, Frear, Wiley, Dugan, and Crampton.

Harvey W. Wiley

HARVEY WASHINGTON WILEY was a chemist and also a graduate physician. He was born a hundred years ago (October 18, 1844) and died in 1930. He was a corporal in the U. S. Army in 1864. He taught chemistry at Purdue 1874–83, and was also State chemist of Indiana. But in 1883 Commissioner Loring brought him to the Department as chief of its Division of Chemistry. He is best known as the father of the first Food and Drugs Act, which was finally passed in 1906 largely due to his inexhaustible pertinacity.

However, Wiley did many things. He was the author of several volumes on chemistry, of some 60 Government bulletins, and of at least 225 scientific papers. He was a big, hulking fellow—some said homely—but your editor always thought in a most interesting way. He was lively, vivacious, and had an enchanting sense of humor. But he was also a great fighter; he gave no quarter and expected none.

A sugar-beet pioneer

He is less well known for his work on the influence of environment upon the composition of the sugar beet. It caused him to be called the father of America's beet-sugar industry by many historians thereof. Old Bureau of Chemistry Bulletin No. 64, which appeared in 1901, illustrates this work. This study, which definitely pointed out the sections of this country in which the sugar beet could be grown commercially, stands up admirably today.

Wiley studied the effects of latitude, altitude, sunshine, rainfall, and other environmental factors upon the growth of sugar beets and especially upon their sugar content. Before his work, efforts to grow sugar beets here had been sporadic and ill-planned. It even remained problematical whether the beet-sugar industry could be a commercial success in this country.

Wiley's work, broad in scope as his own magnificent personality and systematically carried out over a number of years in a wide variety of localities, put an end to speculation and gave the industry a solid foundation upon which to build. The basic facts he discovered and the general conclusions he drew from his data remain true yet.

Father of food analysis

He is undoubtedly better known, however, for his work on the analysis of foods. A long series of bulletins followed by a 3-volume work entitled "Principles and Practice of Agricultural Analysis" (first published in 1892 as a series of monthly pamphlets) improved methods for the analysis of food, drug, and agricultural products. They were used in every laboratory in the country which examined such products.

Dr. Wiley held many degrees, including that of M. D., and won many honors. He was at one time president of the American Chemical Society and vice president of the American Association for the Advancement of Science. He was secretary, president, and honorary president of the Association of Official Agricultural Chemists during a period running from 1889 to 1912. He was an Academician of the National University of La Plata, Argentina.

Dr. Wiley became Chief of the Bureau of Chemistry upon its creation in 1901, though he had been Chief of the Division of Chemistry for 18 years before that. He resigned in February 1912, his agency having grown from 6 to 600 employees during his term. Scant justice can be done here to his many-faceted personality. His accomplishments as a public speaker alone deserve an article. But many hold his memory green and let this feeble tribute acquaint others with his high qualities as his centenary rolls around.

OES again

INCREDIBLE as this may seem, you would have to consult 4,007 experiment station bulletins, circulars, reports, and articles in scientific journals to get the complete story of what the agricultural experiment stations did during 1943. The recently issued Report on the Agricultural Experiment Stations for that year summarizes this material. This present statement literally dehydrates and compresses it.

There are 53 State and Territorial experiment stations. They employ about 5,000 technical workers. The report gives concise statements about 500 examples of their research findings, all of which aided the war effort. All told, 3,419 research projects were active under Federal-grant funds and some 5,000 were supported by State funds in 1943. All this work cost less than 25 million dollars, of which less than 7 million dollars were in Federal grants.

In 1943 farmers were called upon to increase production of meat and dairy products with limited feed supplies and a shortage of protein concentrates. The stations helped to meet this situation by showing how the yield of pastures, ranges, and hay fields could be improved by new combinations of grasses and legumes, improved fertilizer practices, better grazing control, and harvesting at proper stages of maturity.

And dogfish meal

In particular, the North Carolina station showed that sweetpotato vines were equal to corn silage when ensiled and fed to dairy cows. Other stations demonstrated that soybean meal and other plant proteins could be substituted safely for a large part of animal protein in

swine and poultry rations. Such things as lespedeza seed, dried brewer's yeast, dogfish meal, and powdered swine hoofs came into the picture. It was confirmed also that urea could be fed direct to cattle and milking cows to meet a large part of their protein requirements.

The stations ably aided farmers to meet production goals. Wisconsin showed how limited supplies of rotenone could be stretched; Tennessee led the way in large-scale substitution of cryolite for arsenicals, rotenone, and other restricted insecticides. New methods of controlling insect pests and crop diseases also were developed.

Farmers were shown how to supplement limited fertilizer supplies by the more effective use of farm manures, green manure crops, and artificial manures—the West Virginia, Colorado, Connecticut (State), Massachusetts, and Alabama stations contributing here. The Indiana and Pennsylvania stations provided information on increasing the yield of corn and vegetables by proper placement and plowing under of fertilizers. New Jersey found that the application of fertilizers in solution benefited truck crops.

War and peace

Plant-breeding research begun long ago in peace paid heavy dividends. The use of hybrid corn increased total corn yields by a fifth. Hybrids spread to new areas and always performed well. They now occupy half our national corn acreage.

Much additional research could be cited—in the fields of food preservation, conservation of the nutritive values of foods, production of fibers, oils, and special products, and general adjustments of farmers to abnormal wartime conditions. OES and the State agricultural experiment stations again prove invaluable in war.

De Witt C. Wing (Inf.) writes:

USDA is more refreshing and informative than it has ever been before to me. It's subject matter and effervescent English interest me, even when I'm in no mood to be hospitable to either. You are receiving bouquets and brickbats. So long as you treat these impostors as twins, your editorial behavior will commend itself to those readers who, for one reason or another, do not write to editors.

Fan mail is an asset and a liability, but either is better than neither as a stimulant, or, coming down to date, as a directive. I doubt whether *USDA* is at its best when it essays through printed words to ridicule or reform the conduct of working people who are as they are by virtue of their genes, early conditioning, and current difficulties in wartime Washington.

Industrial feeding

IT USED to be that a lunch pail was a familiar sight going in and out of the factory gates. The packed lunch is still with us, but something new has been added. It's the WFA scheme of feeding workers on the job. Industrial feeding is the name for it and it operates around a wheel called the Basic 7, named for the basic 7 food groups.

It's an old, old story with a new twist. You turn the Basic 7 wheel, choose one of the foods of each segment, and come out feeling as prime as the gentleman in the leopard skin looks.

The spearhead of the movement is the Civilian Food Requirements Branch. Responsibility for the development, direction, and coordination of the program is here. Obviously, the program involves many other agencies. At the Washington level, coordination is achieved through the Inter-Agency Committee on Food for Workers. This committee includes representatives of WFA, WPB, WMC, OPA, Maritime Commission, War and Navy Departments, U. S. Public Health Service, and FWA. The regional picture is patterned after the Washington make-up.

How the plan works

At the moment there are about 14 technical advisers in the five Dist. regional offices. It is expected that there will be about 25 such advisers soon. Advice is available without cost *upon request of management.* When such a request is made, Dist.'s trained industrial feeding experts supply advice on type of food service needed and menu suggestions, help work out OPA allotments, and provide educational material such as radio scripts, posters, and other visual aids.

Food services are not confined to cafeterias. They also include canteens, food ferries, lunch stands, and commercially packed lunches. They may be plant managed, cooperatively run, or operated through industrial feeding contractors.

The goal

And here is where we get back to the lunch pail. It's like the can-can—a museum piece. The streamlined functional way is a hot, nutritious meal served in the plant to sustain staying power and provide new energy.

The joint responsibility of a Nation at war, whether our soldiers are on the beachheads or at work benches, is to achieve the highest intensity of production. Industrial feeding will go a long way to fulfill this responsibility. Today 33 percent of our 20 million war workers get meals on the job. The 1944 goal is an additional 60 percent.

Raymond Evans and silkworms

A LITTLE WHILE ago Raymond Evans, capable head of the Department's Motion Picture Service, retired after 30 years of service and the satisfaction of a personal grudge. His first connection with the Department dates back to the days of Jeremiah M. Rusk, the first Secretary of Agriculture to serve a full term. Then, as a boy, Evans raised a batch of silkworms, as an adjunct to the Department's silk-culture project, and devoted a whole summer to collecting mulberry leaves.

Half expecting to get rich, young Evans was both abashed and angered when a check for 90 cents was finally sent him as a reward for a whole summer's work! He determined to get a job in that Department and loaf the rest of his life to get even. He got the job, but he didn't loaf. If you want to know what he did do, read his article on the USDA Motion Picture Service, 1908–43, in Business Screen, special USDA edition, July 1, 1943. Hunt it up in the Library.

Silk culture

The silk-culture project deserves a word here. It was a long-time ambition of early day Department scientists to establish the silkworm here and base a domestic silk business upon its operations. As early as May 11, 1826, the House of Representatives passed a resolution calling on the Secretary of the Treasury to furnish information on the growth and manufacture of silk.

This led to extensive inquiry and the publication, as a House document, of a manual of 220 pages on the subject, prepared under the direction of Benjamin Rush, Secretary of the Treasury. Seeing this publication, Count von Hazzi of Munich transmitted to Congress his Treatise on the Rearing of Silk Worms. The House also issued this as a document. *Thus it was, incidentally, that Congress itself published the first agricultural bulletins.*

In 1865 Townend (*not* Townsend) Glover, the Department's entomologist, carefully brought silkworms back here from a convention he had attended in

Paris. Twenty years later Congress appropriated $15,000 for the study and promotion of silk culture; silkworms and mulberry trees were distributed. This work terminated in 1891 because efforts to find a machine that could economically reel silk from cocoons proved unsuccessful.

Project closed

But the investigation got under way again in 1902. It was shown that with reasonable care silkworm cocoons could be produced almost anywhere in the U. S. Mulberry trees also generally did well. But the costs of raising the cocoons and reeling raw silk remained prohibitive. Appropriations for silk work continued until 1908. Since then the Department has had neither funds nor authorization to carry it on.

On August 19, 1941, the EPQ Chief issued a mimeographed letter to answer numerous inquiries about silk culture. This stated that the project was closed. The investigation proved productive scientifically but the results could not be applied in practice for economic reasons.

Well, they sure tried hard, and Evans had a hand in it. Meanwhile, solemn gentlemen of measured merriment in laboratories far removed from silkworm simplicity have discovered how to make synthetic fibers tailored to specific needs which will probably put silkworms out of business in the post-war future.

Organizational changes

EXISTING organizations in Dist. have been regrouped with clearer definition of responsibilities and authority. All programs and functions are assigned to four deputy directors; C. W. Kitchen for Commodity and Industry Regulation, Lt. Col. Ralph W. Olmstead for Supply, S. R. Smith for Civilian Programs, and F. A. March for Management. A Procurement Branch has been created to be responsible for all food processing and the disposition of commodities. It is under the Deputy Director for Supply.

General Departmental Circular 31, March 2, designated WFA's Office of Materials and Facilities to formulate and administer a program for the effective utilization of surplus materials, equipment, and facilities which can be released by the armed forces, Government corporations, and other public agencies, and used to implement the food and farm programs. It will represent WFA and USDA in all matters pertaining to release and distribution of such surpluses.

Joe can tell 'em

THE other day we were shown through one of the Department's big research laboratories. Now "we" were once a chemist. "We" did research work in laboratories of organic, biological, and nutritional chemistry, inside and outside the Department, for something like a score of years. This is said to indicate that the interviewer is not a raw layman.

Nevertheless, we were repeatedly cascaded with technological verbosity to such an extent that we had to beg off explaining that, while no layman could possibly be expected to understand intricate technical matters, no chemist, these days of specialization, could hope to understand other kinds of chemists if they really turned their vocabularies on full force. That is something to think about.

Then, very suddenly in this lab tour, we came upon a young man who, among other things, handled an X-ray machine, an electron microscope, and other physical apparatus of great intricacy and complexity. We put a question to him about the microscope and he immediately answered in perfectly comprehensible English, giving us in two sentences all we needed to know or could hope to absorb about this instrument.

Helpful interpreter

Our mind then went back to an afternoon 3 or 4 years ago when we spent an entire half hour trying to tease that much information out of a young University of California physicist, whose verbal discharges simply bristled with alien physical and mathematical terms. We commented to the superior of the young man who had proved so enlightening. What the former said was also of interest and it ran something like this:

> Yes, Joe is the biggest help imaginable around here. He knows that visitors from outside are usually laymen and can adapt his explanations to them. He also knows what is more important, that the other specialists working right here are laymen too, insofar as his specialty is concerned.
>
> He knows that no outside layman really wants or needs to know the complex technical details about a method or an apparatus so he could perform the experiment himself. He wants a general idea. He wants to know that the light comes in here, bounces on a plate here, hits an object here, glances off, and you can measure the angles and tell something about the object you are examining.

Speaks their language

> But Joe knows, too, that organic chemists know little or nothing about physical chemistry and vice versa. Yet he is aware that he can often help all our other specialists in their fields if they can be made to understand what he has to offer. So he talks to them about *his* work in language *they* can understand, and he is just the biggest help to everybody around here. I certainly wouldn't want to part with Joe.

That also is something to think about. Not only is science so esoteric that it requires interpretation to nonscientists; it requires interpretation to scientists in other fields, and what a specialist in one science does requires interpretation to other specialists in his and in related fields.

Scientific research would progress faster, operate more efficiently, and penetrate further if scientific specialists would cultivate the habit of speaking a language the other fellow can understand. Secondly, scientific popularization would gain in effectiveness if scientists would speak to rank laymen in language they can understand, giving them in broad strokes only such information as they need, can absorb, and require to write or speak interpretively.

Comma hounds

SECRETED here and there in all our agencies are individuals often referred to as comma hounds. Many sacrilegious specialists affect to scorn them and deride them freely. Others accuse them of running Defeat Gardens wherein they grow nothing but marks of punctuation and herbs which are used to tonic dangling participles and splint fragmented grammar. Dr. M. C. Merrill has a herd of them up in his Editorial Section in Inf. But you will find them in almost every unit if you examine the premises well.

They are quiet people. They do their work efficiently with little fuss and fury, and that work is necessary. Not only do they salvage the grammatical atrocities of many scientific writers, but they often put ideas and thoughts into words that are meaningless as they stand. In addition, they detect factual errors—errors in statistics, mathematics, bibliographical citations, and even in scientific fact. Many a scientist has been more deeply indebted to editors than he would dare admit.

Delayed appreciation

Indeed, scientists have been known to make errors in citing their own work. One once went so far as to quote himself incorrectly, then to give an incorrect date and page number for his own citation and, as a final fillip, to insert a wrong middle initial into his own name. Fortunately an increasing number of scientists have learned to appreciate editors. Not so long ago Victor Boswell, of PISAE, expressed this appreciation in no uncer-

tain terms. Look up what he said in Science in 1940 (v. 37, pp. 1112–21).

He suggested that it was unwise to use obscure, technical terms whenever common ones would serve as well. He also remarked: "We all know of excellent technical men who complain about the slow movement of their manuscripts through the hands of critics and editors, but who would be astonished and might be offended if told the truth—that much of the delay results from very poor preparation of their papers."

Then there was Frederick C. Bradford, of the Department, who burst forth similarly in Science for May 8, 1942. What he had to say also strongly implied that the editor is an important cog in the machinery of scientific progress. It is true that some editors have hemstitching minds and spend their lives apprehending misplaced semicolons. But most of them are not like that, and they perform an invaluable function with scant recognition and inadequate reward.

Itinerant sugar man

WELL, Dr. Elmer W. Brandes, of PISAE, is back again, this time from Ethiopia, nee "Italian East Africa" until something or other happened to Rommel and Mussolini—remember?

For many years now E. W. has been scurrying around the world, often by plane, in search of sorgo cane or sugarcane varieties which could be used here either directly or, more often, in breeding work. In that way he visit the Dutch East Indies long ago. He was just recently in Ethiopia for 10 weeks.

Sorgos are the sweeter plants of the group which also produces grain sorghums. Ethiopians do not use them for making commercial sugar or sirup, but grow them in small plots for chewing. Brandes made his selections in part by noting varieties the natives like to "chaw" on best.

Sweetenin'

Department scientists have worked on sorgo for many years. Many of its best chemists participated early in the game. The crop has been grown here for more than a century and years ago Dr. Harvey W. Wiley had a lot of plants set out in what is now Eckington, in Washington, D. C.

The problem is to get varieties that will give high yields of sugar per acre—more like sugarcane. The large assortment of plant material Brandes brought back this time, with the improved plant-breeding techniques of recent years, should bring us nearer the goal than ever. Air transportation also aids us in quickly getting pollen around the country to make crosses. The sweetenin' future looks bright.

Another good man retires

AGAIN the editor loses an old friend. One of the first persons in whom he confided during the perplexing days immediately after he entered the Department was W. W. Skinner (see photo), then in charge of the water laboratory in the Bureau of Chemistry. Born in Baltimore in 1874, reared on Maryland's Eastern Sho', Skinner graduated from Maryland Agricultural College in 1895 and was awarded a master's degree by George Washington in 1897 and the degree of doctor of science by the University of Maryland in 1917.

It was in 1905 that he entered Doc Wiley's famous Bureau of Chemistry of which he became assistant chief in 1921. He was later assistant chief of the chemistry unit in the Bureau of Chemistry and Soils, assistant and then associate chief of the Bureau of Agricultural Chemistry and Engineering, and until his retirement March 31, 1944, Chief of AIC in ARA. Dr. Orville E. May succeeds Dr. Skinner as Chief of AIC. Dr. May joined the chemistry bureau in 1923 and since 1942 has been coordinator of chemical-engineering research in ARA.

Dr. Skinner's field has been wide. It covered the chemistry of foods, feeds, and irrigating waters, the recovery and purification of salt from natural brines, range and cultivated forage products, the development and standardization of analytical methods, the effects of industrial wastes on vegetation, the nature of flavors, perfumes, and aromas, the industrial use of farm products, the discovery and synthesis of new insecticides, and the toxic effects of insecticides and food contaminants.

Accomplishments

He was responsible for the establishment of chemistry's Industrial Farm Products Division and for work in this line at St. Paul and at Ames, Iowa, as well as for the establishment of citrus products stations in Texas and Florida and, largely, for the planning and setting up of the four Regional Research Laboratories of AIC. He is author or joint author of 250 scientific books, papers, reports, and addresses. He has long been active in the Association of Official Agricultural Chemists. He has served in many other public capacities.

Illness he often suffered but it never downed him. His colleagues long ago voted him the man most likely to prove indestructible. He is modest, unassuming, pleasant—a good friend who never forgets those who have befriended him and an inspiration to everyone with whom he comes in contact. It will be sort of lonely to think that from now on he won't be in the Department.

BDI alumnus wins Borden Award

THE American Chemical Society has announced that William Mansfield Clark, professor of physiological chemistry at Johns Hopkins University Medical School, has been selected to receive the 1944 Borden Award for outstanding research in the chemistry of milk. The award, consisting of a gold medal and $1,000, will be presented to Dr. Clark at the April meeting of the society.

This announcement is of special interest to the Department, since a great part of the work on which this award is based was done in BDI, particularly that on the measurement of hydrogen-ion concentration and on the gaseous products of cheese ripening.

BDI is proud to add this "alumnus" to its list of staff members who have received Borden Awards. This list includes Lore A. Rogers and Byron H. Webb, who received the 1937 and 1943 awards in dairy manufacturing; Ralph E. Hodgson, who received the 1939 award in dairy production; and George E. Holm and Earle O. Whittier, who received the 1942 and 1943 awards in chemistry of milk.

A sick baby

Clark came to the Dairy Division (then in BAI) in 1910. He was first asked to investigate the chemistry of Swiss cheese. Somewhat later his dissatisfaction with certain modified milk fed his infant daughter led to his first paper on the reaction of cow's milk as modified for infant feeding. This work in turn induced him to read the classic paper by S. P. L. Sorensen on the hydrogen-electrode method of measuring hydrogen-ion concentration—a highly theoretical subject well in the preserve of pure research if ever there was one.

But Clark literally founded a new science here. His work revolutionized large sectors of medical and biological research. Moreover, it has had innumerable industrial applications of the greatest consequence. If its monetary value could be computed, it would be astonishing and incredible. Yet the work originally appeared to be of purely theoretical scientific importance.

Details of his method cannot be given here; they are too technical. Suffice it to say that he developed a refined technique for determining the acidity, alkalinity, and neutrality of solutions far more accurate and dependable than any ever conceived before. Its ramifications are astounding.

Practical applications

His work is now in use in all the following industrial processes, and more:

Water purification; work in the erosion of metals; paper manufacture; digestion of sewage for disposal; disposal of industrial wastes; manufacture and refining of beet and cane sugars; manufacture of dyes and pigments; manufacture of corn sugar, glucose, and candy; textile processing; clay casting; leather tanning; differential ore flotation; electroplating and electrotyping; chemical analysis; fermentation industries; making of fruit jellies and of flour, dough, bread, and crackers; manufacture of milk products and control of milk bacteria; canning foods; analyzing soils; and manufacture of pharmaceutical preparations. It is also used in clinical pathology.

Possibly there never was a better example in the history of Department research of pure theory turning into applications of the greatest value and importance.

Brief but important

Clean Plate Clubs: Some 255 pounds of food per person are thrown away annually in this country, says the American Public Works Association, which got the dope on garbage collections. War Food Administrator Jones said recently in a radio address that "no one will forgive waste of food in time of war" and added that in England it is a penal offense.

Let's all back the Clean Plate Clubs campaign now in progress; use up every bit of food at home; and, when eating out, order only what we can eat. In Washington, D. C., some restaurants charge employees only for food left on plates after eating . . . In Charlotte, N. C., citizens displayed several baskets of good food collected from the city garbage dump on a banquet table during a Clean Plate Club rally . . . In one Texas school, children in each classroom weigh the food left on plates; if it weighs 5¼ pounds, up goes a sign, "We wasted enough food this noon to feed a soldier for one day."

No-point low-point food: J. Sidney Johnson, consultant of WFA, has handled the No-Point Low-Point Food Program on a sales-promotion basis, just as outside advertising agencies handle such campaigns. The other day he spoke to a group of information people and their aides in the Department auditorium, on the stage of which a green grocery was set up. Mr. Johnson paid the highest possible tribute to the cooperation of USDA and WFA employees in this program. He said that he had never had better or more intelligent assistance anywhere. A copy of his remarks at Chicago January 24 will give you the whole idea if you apply to the Press Service for it.

Gasoline black market: OPA asks all motorists to endorse their gasoline coupons. Price Administrator Chester Bowles says: "The black market is one of the most serious threats that there is today to our civilian life and work. The gasoline siphoned every day out of our limited supply * * * for the benefit of the minority of people who are intent on grabbing a larger wartime share than their neighbors is robbing all honest motorists of gasoline that belongs to them. . . . The OPA with its limited resources cannot do the job (of enforcement) alone."

Agricultural Statistics: Department workers now have copies of the 1943 edition of Agricultural Statistics, a book of 550 pages. They are asked to examine carefully the tables relating to their work and to submit at once suggestions for improvement or for substitute material, so that the Yearbook Statistical Committee may have ideas from all branches of the Department. Suggestions for the 1944 book should be addressed to the Committee Chairman, Joseph A. Becker, BAE, Room 2429, South Building, Washington.

Meritorious promotions: Dr. Robert E. Dunn, BAI, got one for designing an excellent chute and "squeeze gate" to restrain cattle in such work as blood testing, dehorning, and vaccinating. The gate may be mounted on a trailer . . . Miss Eleanor Lighter, CCC, got one for her plan to conserve time and paper on multilith jobs (see *USDA*, January 8).

Our new dress: Possibly you noticed our new type dress. We owe this early spring change of typographical raiment to the spontaneous, generous, and appreciated interest of Ed Gallagher and his boys in the Printing Section of the Division of Publications, Inf. They also took into consultation certain experts on type and make-up at the GPO. The end product seems to the editorial staff a great improvement. Do you find it so?

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FOR APRIL 15, 1944

AAA yesterday and today

BORN IN THE hectic days of 1933, when the Nation was depressed by agricultural difficulties springing from the first World War, the AAA was the first of the new action agencies to serve the farmer.

Through depression, droughts, surpluses, and war's Gargantuan appetite, AAA has come a long way. When war came, a network of 100,000 farmer-committeemen, elected by their neighbors, was spread throughout the United States. From community committeemen to national Chief N. E. Dodd, an Oregon farmer, AAA informs farmers on the Nation's needs and goals for farm products, besides carrying on many emergency activities such as help in avoiding gluts in the marketing of livestock and in getting corn marketed for war industries.

Prepared for war

When war came to this country in 1941, Ever Normal Granary reserves provided the Nation with the greatest supplies of food, feed, and fiber in its history. Through CCC commodity loans, prices were supported and farmers received cash for products which they had stored up against future needs. Those needs assumed gigantic proportions when the Japs struck on December 7.

Farmers' soil was ready. It had not been 10 years earlier. At that time, land that had been destroyed or was unprofitable because of erosion and depletion of soil fertility amounted to about as much as the Corn Belt's whole crop acreage. In 1936 the AAA program was broadened to include conservation practices. Farmers in greater numbers were liming and phosphating, strip-cropping and contouring, and carrying out other soil-building practices, which made possible wider application of the program already under way through SCS. Results spread rapidly and could be seen from train windows or in cold figures of increased yields per acre.

Yes, farmers were ready when war came. They had had experience in operating through organized methods. They were confident they could go ahead and produce for global war. From the beginning, AAA's goal as defined by Congress has been a fair share of the national income for farmers.

When war came, AAA continued its program of encouraging production of all that available markets would take. In the early days production was geared to a shrunken market. Now production is geared to an almost limitless market. Adjustment was, and is, a matter of scaling farm production up or down to meet demands. In 1943, for the seventh consecutive year, food production was at a new high level; 32 percent over the 1935–39 average and approximately 50 percent higher than during any year of the last war.

Program increases yields

AAA's wartime conservation program emphasizes practices which experience has shown will increase yields immediately. In 1944, AAA will help farmers carry out more of these practices than in any previous year, thereby increasing supplies of urgently needed commodities.

In the cattle country, the AAA is emphasizing such improvements as stock-watering facilities, so that livestock will utilize the whole range instead of eating grass near water holes and leaving much of the rest untouched.

Gone are parity payments, since most commodities are now selling at or above parity. Marketing quotas—currently unnecessary for balancing supply with demand, except in the case of two types of tobacco—are out. The program calls for full use of available land with special emphasis on crops most needed. AAA committeemen are concentrating attention on the most vital crops—such as soybeans, peanuts, dry beans and peas—and aiming at the most effective use of land, labor, and machinery.

Information head leaves

MORSE SALISBURY, Director of Information for the USDA and WFA, is leaving to become Information Director for UNRRA, effective April 15. Sir Arthur Salter, Acting Director General of UNRRA, announced the appointment March 30.

Mr. Salisbury has been in Department information work for the past 16 years. He came here as chief of the Radio Service in 1928, when he organized the National Farm and Home Hour in cooperation with NBC. This radio program is now perhaps the best known farm-program broadcast in the world. His background and training in agriculture, journalism, and radio made him well fitted to develop the Department's radio work. He has specialized in popularizing agricultural and other scientific material. He has done a great deal of broadcasting and his work in this field has received much favorable comment from radio listeners.

In 1938 Mr. Salisbury became Associate Director of Information, in charge of press, publications, and radio, and responsible as to policy for motion pictures and exhibits. In January 1941 he was appointed Director of Information for the Department, and for the past year has been directing the information work of WFA as well as of the USDA. In his capacity as Director of Information he has also coordinated the information programs of all the agencies and offices under WFA and USDA.

His many friends and coworkers are sorry he is leaving and wish him the best of luck in his important job in UNRRA.

Organizational changes

THE CCC Board of Directors has been reconstituted, in line with WFA organizational changes, to consist of the following: War Food Administrator, chairman; Directors of Production, Distribution, and Price; Chief of AAA; and President of CCC. The Director of Distribution has been elected a Vice President of CCC. The Solicitor and Director of Finance are to serve as legal and financial advisers, respectively, to the board.

Administrator's Memorandum No. 38 said that, effective April 1, all orders issued under authority of the War Food Administrator were to be issued as War Food Orders instead of Food Distribution, Food Production, or Commodity Credit Orders. Orders issued prior to April 1, if amended, will be redesignated as War Food Orders.

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Scientific publication

IT IS not only important to perform research but also to publish the results. Joseph Priestley (1733–1804), the Unitarian minister who was one discoverer of oxygen, believed in quick publication, too. He thought that long rumination over the result of scientific experiments in the endeavor to establish a complete system before publication showed "want of genuine love of science and of mankind." Some would dispute that point.

He went on: "As to myself, I find it absolutely impossible to produce a work on this subject that shall be anything like complete . . . In completing one discovery we never fail to get an imperfect knowledge of others, of which we could have no idea before; so that we cannot solve one doubt without increasing several new ones."

Leonardo's fragments

Leonardo da Vinci is said by some to have failed as a scientist because of his neglect to publish. He highly esteemed printing and intended to publish his notebooks, but actually the material came down to us in fragmentary form. The incompleteness of his researches was also connected with the lack of organized research laboratories in his day. The absence of scientific societies and journals greatly impeded him. Moreover, like Newton, he was reluctant to publish, but he lacked friends like Newton's who insisted on the urgency of publication. He followed the contemporary mode of individualistic craft production in his researches.

Modern instances

Coming to modern times, the late Charles Wardell Stiles studied and identified the hookworm which afflicted so many in our Southern States, and Maurice C. Hall suggested and first utilized carbon tetrachloride for the removal of hookworms. This work was done in BAI, an organized scientific institution. Moreover, scientific journals also existed, for Hall's initial publication was a paper which appeared in the Journal of Agricultural Research during 1921 (v. 21: pp. 157–175). *It is a practical certainty that the results which flowed from this paper paid for the issuance of the journal throughout its entire existence to date—many times over.*

While carbon tetrachloride was first used to rid dogs of hookworm, it proved effective with human beings. But, before trying it on others, Dr. Hall took the risk of dosing himself with the drug. As he survived, he experimented next with victims of hookworm.

Monetary value

Since persons infested with hookworm, even if they remain ambulant, have their work capacity reduced 35 percent and, if totally incapacitated, become public charges, it is very conservative to say that the treatment benefits them as much as one dollar per person. Even at this shockingly low rate, the discovery and its publication may be valued at something like $15,000,000 to $25,000,000.

At least such figures appear very conservative to experts in Cornell and Vanderbilt Universities, who were consulted by the editor of *USDA*. Moreover, Hall's discovery of the anthelmintic properties of carbon tetrachloride made possible the development of other related compounds and its subsequent replacement by less toxic tetrachlorethylene in treating hookworm. For his work Dr. Hall received the highest praise and the enthusiastic recognition of experts.

It pays to carry on research. It also pays huge dividends to publish the results.

Gov. Black leaves

TEACHER, author, economist, and public administrator—not even his closest friends suspected "Al" Black of an urge to "follow the Romany pattern * * * till the East and the West are one." But after more than 4 years as head of FCA, Gov. Albert Gain Black has resigned to become a member of an economic mission to Iran sponsored by the State Department. In accepting his resignation, President Roosevelt paid tribute to the Governor's work, saying:

"You have been an important part of the Administration from the beginning * * * I am glad to say that you have demonstrated marked ability in many important posts of responsibility and trust, latterly as governor of the Farm Credit Administration."

Many Department people have known Dr. Black since their college days. Some were under his tutelage at the University of Minnesota or at Iowa State College. They became familiar with his economic tenets and his stalwart defense of the farmer's right to an equal share in the Nation's purchasing power. Later they were associated with him as he helped to mold and administer various agricultural programs aimed toward raising farm-living standards to a level with those of town workers. They remember his determination to see the goals achieved and gave him their confidence and God-speed in the newest and most challenging of his agricultural undertakings.

His Department career

Governor Black came to the Department as Chief of the AAA Corn Hog Section in 1933. In 1938 he became Chief of BAE and in 1939 was made Director of Marketing and Regulatory Work. Late in the same year he became Deputy Governor and in 1940 Governor of FCA. Of FCA, Governor Black said in a statement made after resigning:

"Among Government agencies dealing with agriculture, experience has demonstrated that the Farm Credit Administration has been outstanding in fulfilling its purpose of meeting the needs of farmers in a way helpful to them and in a manner that is in accord with prudent business practices."

WHAT the leased wire sang in February (or April?) black month of the famine:

I'm the Plow That Broke the Plains, The Land, The River; I'm Harvests for Now and Later.

I'm agriculture on the contour,
Around the hills and my gullies plugged.
I'm Old MacDonald:
"The damndest dam builder in the whole damn country"—
That's conservation!

I'm conversion, too, of what I used to grow.

I understand conversion,
Triple-A told me,
They started telling me in thirty-three;
They've been doing it ever since, so now I know.

Right now I'm production.
I'm the American farmer who wants to produce,
Who knows how, who can!

The rains may come or not at all—or floods—
The dust may blow, blow you clear off the land
Into the next State
And all the way to California.

I'm still production,
And later, distribution.

I'm the soy blowing in the sun;
I'm eggs and milk—dried and sent to sea
For China—Russia—England—
For us abundance, too.

I'm the farmer, the packer, the consumer,
I'm pollen and steel and the sweat of strong men—
Harvests for Now and Later.

—S. P., *Dist.*

Jefferson's bicentennial

THOMAS JEFFERSON was born 201 years ago, on April 13, 1743. To honor him for his achievements in farming and agricultural science, Congress authorized in the past year Jefferson's bicentennial and appointed the Jefferson Bicentennial Agricultural Committee, with Secretary Wickard as chairman. On Jefferson's birthday, exercises were held at Monticello, Va., his home. Members of the committee, Department officials, land grant college representatives, and farm leaders took part.

A recent statement by Mr. Wickard on the subject reads: "Thomas Jefferson was not only the architect of the democratic way of life which we are defending in this war, but he was also the primogenitor of the kind of scientific agriculture employed by us today, an agriculture which enables our farmers and victory gardeners to produce more of the food that fights for freedom."

M. L. Wilson, Extension Director, commented recently:

"As believers in rural democracy, all agriculturally minded persons should be interested in the permanent establishment of our own agricultural traditions. They have played an important part in building the kind of America—and the kind of world—we are fighting for. All farmers and agriculturists of the Western Hemisphere should have considerable pride in the contributions of Thomas Jefferson."

Communications and records

HOW WOULD you like to handle about 10,000 pieces of mail every day? How would you like having to *read* about 200 incoming letters to find out where to send them and also any number of outgoing letters to see whether they should be sent at all, in their present state? A small Government communications and records section like that in Inf. has to do just that.

You perhaps didn't know that careful people who are gluttons for punishment examine all outgoing official mail for accuracy of facts, policy, spelling, and grammar. This is just another evidence of the care with which the Government operates even in what seem to be little things.

Furthermore, this same section purveys information. If you are on the trail of a quotation from a speech, radio talk, or press release, or if you want more information about some piece of Department research about which you read in a newspaper or magazine, it is up to this unit to find it. Everything must be indexed with such skill that this doesn't take too long either, for people do not hesitate to write in repeatedly.

It takes time

Sometimes the information required must be derived from several of USDA's agencies. It takes some time and patience to assemble a complete reply to a query then. Yet the chances are 10 to 1 it will be done.

Communications and records sections sort, open, read, stamp, and deliver thousands of pieces of mail daily. Correctly addressed mail is dispatched quickly and smoothly. Misdirected or incompletely addressed mail entails endless hours of superfluous labor. The following rules should have wide publicity:

How to ask questions

(1) Write to the proper agency, including, if possible, the names of the appropriate smaller unit and the official in charge. (2) Give all facts in your possession, quoting references, dates, and writers—i. e., learn to ask intelligent questions. (3) When replying to a letter, quote date and any other useful distinguishing marks on the incoming letter. (4) Allow ample time before insisting on a reply.

Make 'em read it

DR. GLADYS G. GALLUP and her able assistant Amy Cowing, Ext., talked about readability the other day at a training council luncheon. If you want a practical example of this sort of thing, consider HNHE's fine folder, Vitamins From Farm to You, which has been translated from the technical and professional language of scientific texts into an attractive, readable form easily understood by sixth and seventh graders.

How is this accomplished? There are three basic rules: *Use short sentences, simple words, and many personal references.* That is all, except the seductive typography. Experts in these techniques consult lists of the easiest words. They then translate into these. Do not confuse this with "basic English," though. For, if you are writing for farmers, many words are pie for them that are hard technical terms for city fellers.

Well, should we?

The audience must be considered. We must avoid writing down to people who do not want verbal babying. But we must admit that practically universal literacy has opened the ranks of readers to many who must be influenced by words, yet who just can read and no more.

How will all this—plus our passion for picture magazines and books and for digests that will soon have to start digesting one another—affect our literature and our culture? The tendency to use the shortest, simplest words possible could impoverish the language. Literature often inheres in the precision gained by using the one specific word that imparts the correct shade of meaning. What do *you* think about this, if we must get personal?

Capt. Stanford

ANOTHER Department employee has added his name to the list of heroes in this war. Capt. John Pershing Stanford—he is named after the person you think he is—formerly worked in Texas with SCS on the Civilian Conservation Corps rolls. He enlisted in the service in April 1941 and after war started was ready as a bombardier with the Army Air Forces. He was sent to North Africa and completed 37 successful bombing missions.

For his exploits in the war he has received the Purple Heart and the Distinguished Flying Cross several times. After duty at the front, he was returned to this country and is now an instructor at Langley Field. He invests over 50 percent of his salary in war bonds. After the war is over, Capt. Stanford wants to finish school at Texas A. & M. College and then return to work for the Department. He will be welcome.

Head victory gardener

H. W. HOCHBAUM, of Ext., might be called Uncle Sam's head victory gardener. At the time of Pearl Harbor, Secretary Wickard appointed Hochbaum chairman of the Department's Victory Garden Committee. As such, he managed the first National Victory Garden Conference held in Washington December 1941. Other Government agencies look to Hochbaum and the committee for the latest, reliable information on Victory Gardens, which help to boost the Nation's food supply.

All his life a gardener, Hochbaum blends enthusiasm with realism. He knows that good gardening means work and sweat as well as "know how." He formerly taught horticulture and for a year was county agent of Ada County, Idaho. After Congress, in 1914, passed the Smith-Lever Act establishing cooperative extension work between the

States and the USDA, Hochbaum became State county agent leader in Idaho.

In 1918, "Hoch" came to Washington to help with wartime fruit and vegetable problems of World War I. Now, in this war, as chairman of the Victory Garden Committee, he cooperates with every agency and individual who can be won over to Victory Gardens. They are here to stay even after we have won the war, Hochbaum says.

Nicolet gets award

ON March 9, Ben H. Nicolet, of BDI, was presented with the Hillebrand Award, given annually by the Chemical Society of Washington to one of its members who now number 1,100. The award was made for work that can be described only in arresting technical language about which you had better ask Ben. For practical purposes among us laymen, it is important to laboratories working on wool and on casein fibers.

Basically, it further clarifies the composition of casein, the principal protein of milk. Proteins are made up of various combinations of simpler compounds called amino acids. One of these, called hydroxy-glutamic acid (possibly for pure spite), once assumed to compose 10 percent of casein, was found by Ben to be the little acid that wasn't even there at all. Another amino acid, serine, is present in greater quantities than was hitherto realized or demonstrated.

That make you feel better? The award bucked Ben up like a spring tonic.

What good is it?

CAPTIOUS critics often cite what appears to them to be a piece of perfectly useless research and ask what good it is. The classic answer to this is: What is the use of a baby?

But it is a fact, of course, that a great deal of research turns out to be very little good, at least in the average lifetime. Yet, insofar as it fills out some corner of that immense picture puzzle called science, it may later have value when least expected.

In 1924 there was published in the Journal of Agricultural Research, issued by the Department of Agriculture, an article on the daily fluctuations of the carbohydrates in the leaves of corn and sorghum. It would be difficult to see what practical value would ever come of knowing that corn and sorghum leaves contained more or less sugars and starches depending on the time of day.

But about a decade later the dairy department of a university began to find that the silage it made varied markedly in acidity from time to time, and it couldn't find out why. Then the workers came across the paper just mentioned. Since the amount of carbohydrates in the plants from which the silage was made, sorghum and corn, governed the final acidity of the silage, it was simple to control this by controlling the time of day when the silage and corn were cut.—T. Swann Harding, in The Progressive, January 17.

Brief but important

Over the top: The Department, both Washington and the field, went over the top in the Fourth War Loan Drive with $6,336,210, or *132 percent* of its quota of $4,785,053. The amount represented payroll deductions and cash sales in January and February.

Ex-service men for jobs: In a recent memorandum, addressed to boards of directors, managers, contractors, and consulting engineers of REA-financed rural electric systems, Deputy Administrator William J. Neal wrote:

> Scores of men are being released from the Army, Navy, and Marine Corps every day with medical discharges. Thousands so released are ready, able, and eager to get to work at useful tasks. We of the REA commend these men to you as deserving prospects for any job openings you may have in your office staff or field organization.

Bjornson gets the bird: E. Hjalmar Bjornson, formerly of FDA and now editorial writer for the Minneapolis Star Journal, has been awarded the Order of the Icelandic Falcon, highest honor of the Government of Iceland. The award was in recognition of Bjornson's outstanding services as representative of FDA (now Dist.) in Iceland, where he handled fish and other commodities for lend-lease. He is of Icelandic ancestry and speaks the language fluently.

Improved nitrogen fertilizer: This year farmers will be able to buy granular ammonium nitrate, a high-analysis, low-cost, all-purpose nitrogen fertilizer made at synthetic-nitrogen plants. This compound, made from nitric acid and ammonia, makes possible savings in bags, labor, freight, and other distribution costs.

Tolley gift books: Howard R. Tolley, BAE Chief, in May 1943 established a fund to be financed by personal contributions from sums received by him for speeches or writings or as royalties from his recent book, The Farmer Citizen at War. The fund is drawn on by the Department Library, when regular Library funds are not available, for purchase of books on economics, sociology, and related fields. To date 58 books dealing with post-war planning and reconstruction and international economic problems have been ordered. P. H. DeVries, BAE, and Margaret T. Olcott, of the Library, select the books.

Prevent forest fires: With the slogan, "Greater Danger Than Ever," FS and the Association of State Foresters have opened the 1944 Nation-wide campaign for wartime forest-fire prevention. Unusual weather and increased logging have greatly increased the danger of forest fires this year, and we need more lumber and pulpwood for the war.

Forestry in the service: J. L. Arend, formerly with FS and more recently with the 26th Fighter Command, wrote to E. L. Demmon, Director of the Southern Forest Experiment Station, New Orleans:

> My military duties so far do not occupy all of my time. At present I have about an equal amount of time to learn more about tropical forestry. At first the jungle was just a dense conglomeration of dense vegetation, but it is gradually unfolding itself. Forest floor conditions amazed me as well as runoff and erosion from tropical rain forests. I found about 10 years of runoff records from 3 small jungle watersheds, and a recording rain gage was also nearby. I have spent considerable time analyzing these records.

From our readers: A. J. G. Illian, WFA, New York City: "May I compliment you on the new format and composition of *USDA?* I have watched with interest the gradual improvement and assure you that it has generated considerable interest in the Department's newspaper." Elizabeth C. Cunningham, FSA, Milwaukee: "The typographical treatment is interesting and effective. I'm sure you'll find reader interest in your publication increasing with its use. The arrangement of display lines and copy elements, too, are worthy of mention."

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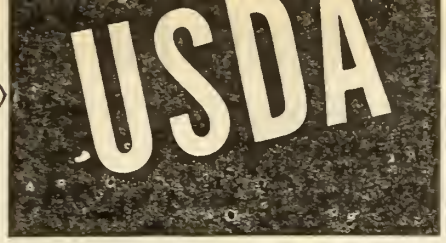

FOR APRIL 29, 1944

Farm Credit Administration now

IF FCA were a commercial banking system, it would be the second largest in the United States — just a whisper smaller than the Chase National Bank.

But FCA is far from being a commercial banking system and such comparisons lead one far astray. Many of FCA's far-flung institutions are called "banks"—the 12 Federal Land Banks, the 12 Federal Intermediate Credit Banks, the 13 Banks for Cooperatives—but they are banks without tellers' cages, without checking accounts or savings deposits, with practically no cash passing across their counters, and sometimes there aren't even counters!

FCA actually is the world's greatest farm-financing system. It has three main purposes: To help farmers finance and purchase farms; to help them finance the operation of their farms, and to help them establish and operate cooperative associations which market the production of their farms or provide the goods and services necessary to that production.

To carry out such a program FCA has to be big—and it is. The combined total of all the assets of its many banks, corporations, and affiliated associations is in excess of $4,000,000,000.

Evolution of FCA

FCA is complex, because it serves many needs, because it has grown up over a long period of time. Its oldest units are the Federal Land Banks, authorized by the Federal Farm Loan Act of 1916. Until 1933 they were supervised by the Federal Farm Loan Board, a division of the Treasury Department. FCA also includes the Emergency Crop and Feed Loan Offices, the earliest authorizations for which go back to World War I.

It also includes: The Federal Intermediate Credit Banks, created in 1923; the Division of Cooperative Research and Service, originally established in 1926 as the Division of Cooperative Marketing in USDA; the Agricultural Marketing Act Revolving Fund, inherited from the Federal Farm Board, established in 1929; the Regional Agricultural Credit Corporations, established along with the Reconstruction Finance Corporation in 1932; and the Banks for Cooperatives and the Production Credit system, established in 1933.

FCA itself came into being in 1933 when all of these agencies and functions were placed under one head—the Governor of FCA. The system came into the Department in 1939 under Reorganization Plan 1.

Operations

The system is far flung, operating through 12 main regional offices. In each city where a regional office is located is the headquarters of a regional FCA, with its own district land bank, intermediate credit bank, bank for cooperatives, and production credit corporation. Each district has its own board of directors, chosen in part by borrowers, appointed in part by FCA's Governor. District operations are semi-autonomous; district employees are not Government employees, but do share Civil Service retirement benefits.

Physically the system is large or small: Large if you look at the massive Municipal Auditorium in Kansas City, Mo., where national headquarters is maintained; small if you look at the individual offices of production credit associations, national farm loan associations, or emergency crop and feed loan representatives out in the country.

Dirt farmer's friend

No one knows how many farmers FCA serves, because the number includes, of course, members of all cooperatives which borrow from the Banks for Cooperatives, and nobody ever thought it worth while to try to eliminate duplications in that huge total, just for the sake of a figure. Conservative estimates, however, place the figure at between two-fifths and one-half of all of the farmers in the Nation.

Yet many of the farmers served do not know the agency which meets their needs. To them FCA is their local production credit association, their local national farm loan association. And that's the way FCA wants it. For it regards itself as no marbled palace of high finance, but as a country office where a farmer quickly and conveniently can arrange the financing that will produce the biggest crop of food for freedom his farm has ever grown.

Tannin-replacement program

TANNINS ARE complex organic substances which convert hide into the nonputrescible form we call leather. We use some 100,000 to 120,000 tons of tannin annually, normally importing 60 to 65 percent. Chestnut wood, now rapidly vanishing from blight, provides over 90 percent of our domestic tannin. The tannin is concentrated right in the wood to the extent of 7–10 percent, and the dead wood can be used for making extract as long as it stands. But supplies of chestnut wood are disappearing and the yield of extract per cord of wood now available has been reduced 30 percent.

Oak bark and the bark of eastern hemlock can be used but are not plentiful. Western hemlock bark is somewhat higher in tannin, but the paper-pulp industry says that the bark cannot be peeled off economically in the woods. If the logs are floated, the bark loses about half its tannin. There is also a project involving Florida scrub oak which may come to something. There are about 20 species and 3 of these contain 10–12 percent tannin.

USDA replacement program

The Department would prefer to base its replacement program on something that would grow quickly and, if possible, yield an annual crop. For instance, the roots of canaigre, a plant of the dock family, when dry, average over 20 percent tannin. This might make a good annual crop. In the 1890's it was used rather extensively but did not prove commercially successful. The roots also contain carbohydrates which would have to be extracted first and might prove of

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value. AIC is working on this and PISAE is making plantings.

There is also a plant called tara, native to Peru and Chile but which can be grown successfully in California. Here the tannin is in a powder and a fibrous material that form part of the bean pods.

Domestic sumac

Perhaps most promising is domestic sumac. Hitherto Sicilian sumac was preferred by the trade but imports have been entirely cut off by the war. Sumac tannin is concentrated in the leaves which contain, in the imported species, as much as 25–35 percent, several times as much as the stems. By careful growing and curing methods AIC has found that the quality of the leaves can be improved so as to make the domestic sumac nearly equal to the Sicilian for tanning purposes.

SCS's hillculture scientists are cooperating in the work on this plant because it aids erosion control. In cooperation with the Iowa Experiment Station, SCS is developing improved mechanical, drying, and baling processes. A new sumac harvester has just been devised. The great amount of hand labor previously required limited the growing of sumac for domestic use. Possibly a valuable new farm crop that can be grown on steep slopes and eroded land is on the way.

High-yielding strains are being selected. Farmer programs are already under way to collect and dry a substantial quantity of tannin-producing sumac leaves during the current season. FS and PISAE also work on aspects of the tanning problem. Thus it is that our various agencies work cooperatively on important projects.

Diggs leaves: The genial David Diggs—himself an institution—elevator operator in the Administration Building, recently was presented by Secretary Wickard with a purse of $50 from Department employees. The occasion was his transfer to New York City. Diggs, known to everyone in the building from the Secretary and War Food Administrator on down, had been in the Department 23 years. We'll miss his wit—slow sometimes, but usually penetrating.

For convalescent soldiers: The Spokane USDA Club is helping convalescent soldiers at the Baxter General Hospital who want to learn or brush up on farming. Club members discuss agricultural subjects there three times a week, using motion pictures and lantern slides.

New heads for Inf., Price

SECRETARY WICKARD and War Food Administrator Jones have appointed Keith Himebaugh as Director of Information for USDA and WFA. Mr. Himebaugh has been in Department information work for the past 10 years, first in the AAA and since 1938 in Inf., where he served successively as assistant and associate director. He is a native of Kent County, Mich.

Howard B. Boyd has been named Director of Price, in WFA. Mr. Boyd also came to the Department in the AAA, about 10 years ago, and later became, successively, vice president of CCC, assistant director of OAWR, assistant to the WFA associate administrator, and WFA deputy director of production. The Office of Price which Mr. Boyd now heads, was established in January 1944.

"Air Cargo Luncheon"

POST-WAR POSSIBILITIES in air transportation of perishable foods—the subject of joint studies by BAE and Wayne University, Detroit—were illustrated recently at an "air cargo luncheon" in Detroit. Fruits and vegetables served had been harvested only the day before in 5 distant States and also in Latin American countries. Some of the tropical foods were so little known in the United States that Department people had to work out special recipes for cooking them.

Secretary Wickard, who spoke at the luncheon, said the principal advantage of air transportation is "improvement of the quality of the product as it reaches the consumer." Shipment of Florida strawberries to Detroit, for example, takes 3 or 4 days by rail or rail and truck, but only 7 or 8 hours by air.

The estimated cost of shipping strawberries from Florida to Detroit by air, in 4¼ ton lots, is higher by only 6 cents a quart than shipment by land, Mr. Wickard said. This difference in transportation costs may be further reduced by savings in containers and abolishment of many steps now necessary in handling foods shipped by land.

No radio boners

YOU ARE familiar with the fact that movie producers have very careful people who check every scene and property scientifically to guard against anachronisms and plain errors. No Boy Scout emblem must appear backwards; no American flag in an illegal position; no electric razor must be used before electric razors were invented; and no historical character must sit in a chair or wear a shirt not of his actual period.

Do you realize that our radio writers check just as carefully what they give the public, and that what you hear from USDA over the radio is as correct as anybody could make it? If a lady radio writer is going to tell the public about strawberries, she interviews the scientist who knows most about them, going to Beltsville Research Center to do it if necessary. If she is going to write about Victory Gardens, she makes a Victory Garden herself to see how it feels and draws her inspiration and facts from experience.

Old almanacs and things

Sometimes she feels inclined to drag in partly extraneous matters to build up interest. One, for instance, decided it would give her talks tang if she made occasional references to old almanacs. She got a collection of them—some published during the War Between the States and earlier. But she was not going to get tricked into error by misinterpreting some ancient observation about solar, weather, or astronomical matters. So she checked laboriously with the Weather Bureau and the Naval Observatory before she considered her job complete.

When she gets around to American Indians she checks with the Smithsonian. She'd make a trip to New York to visit some special exhibit in a museum before she would let you down. If she were caught on such boners as movie people often are she would be embarrassed no end. This is a little thing, but it shows how hard USDA people work to be right—unassailably right.

If you must know it's Josephine Hemphill we have in mind at the moment. Were you aware she was Acting Chief of Radio when Morse Salisbury was appointed, and had been for nearly a year?

List of officials: If you want an up-to-date list of top USDA–WFA officials, we shall try to supply them from the limited quantities available. Limit number requested.

Backward look department

YE ED just walked over to OWI. He passed the corner of Maryland Avenue and Fourth Street SW., in Washington. Suddenly his mind slipped back a quarter of a century to other days when he was a nascent chemist under the supervision of the distinguished scientist, C. S. Hudson, now chief of the chemistry laboratory in the National Institute of Health, but then chief of the carbohydrate laboratory of Doc Wiley's old Bureau of Chemistry.

In those remote days Hudson—ably assisted by H. S. Paine, now assistant director of the Southern Regional Research Laboratory, and feebly by ye ed—was trying to make sugars from just about everything, and there are a lot of sugars, you know. We made sugars from corncobs, African desert manna, beet pulp, ivory nuts (long used to make buttons), avocado pears, filter paper, and resurrection plants, and Heaven knows what else.

All sorts of fruits, nuts, and beans, that were yielded by the wide variety of bushes and trees from everywhere which then grew in the Department's specious grounds, attracted Hudson. He used to send ye ed out with a basket many a time to get a load of this or that bean or berry so we could try to make sugar out of it. Such simple, dear dead days!

Berry stealing

One day we were hard at this job on the Department grounds when a passing gentleman said: "Hello, Bub, what you up to?" We told him. He was much impressed. He took out his notebook, solemnly recorded Hudson's name and ours, and walked off saying: "Now when you fellers discover a great new sugar in those beans I'll say I saw that youngster picking those beans up with my very own eyes." What we discovered memory saith not.

Well, one day Hudson, on his way to work, passed the house we passed today. Arrived at the lab, he said: "Harding, take a basket and go over to that house at No. —— Maryland Avenue SW. There's a funny-looking tree in the yard with some funny-looking berries on it. It looks like nobody's home there. See if you can't sneak in and sneak out with a couple of quarts of the berries. There might be an interesting new sugar in them."

We made it without detection. We sneaked in and we sneaked out. We had the berries. Nobody arrested us. My, but research was grand in the old, old days!

How research pays

IT IS always rather a touchy thing to calculate the value of a research discovery in monetary terms. Even when that value decidedly is monetary and in big figures, the increased income to be derived from a Government research project is paid as a sort of social dividend to the American people as a whole. Certainly the Department cannot guarantee the equitable distribution of the increased income that accrues.

Furthermore, some of the returns from research pay for further research, i. e., research is in part self-supporting. One American research foundation has accumulated and dispensed millions derived essentially from a single basic discovery in the field of theoretical science. For certainly, the idea that playing around with experimental animals, lights of various kinds, and animal rations would result in millions gained from the vitamin D activation of human foods and animal feeds seemed remote.

Scientific stock pile

Detailed bits of knowledge about human nutrition, genetics, the influence of day length on plant development, the effects of plant hormones on plant growth, and so on—patiently accumulated through many years of research—suddenly acquire crisis value. Just as often they suddenly bloom and bear bountifully in time of peace. Well-developed techniques, trained personnel, well-organized laboratories we must always have in the modern world, as this war has proved over and over.

These things cannot be improvised on the spot. Nor would we have had them now but for the support given research in past decades. No wiser investment can be made than this. For our national success in the post-war adjustment period depends as surely upon our wise development and use of scientific knowledge as does victory in the present conflict.

Fungus lovers

In the same way the USDA has long had scientists who studied molds and fungi and who made awesome collections of these somewhat sedentary organisms. That, too, occasionally looked a bit silly. It was often difficult to explain its high value to perfectly warranted investigators in the legislative branch of the Government. But this long-time study continually had results of real value, and it positively hit the jackpot when it came to increasing yields of penicillin a hundredfold. As Dr. Auchter told the land grant colleges last October 27:

"All the funds that have been provided for many years to study the growth, reproduction, physiology, relationships, and life histories of the many species of plants grouped under the general term "fungus" would be justified by this one discovery, even if all such work had not already been paid for very many times over by economic applications of the results of critical research."

Research that pays out in a big way must in part sustain long-time studies in theoretical fields which have to be undertaken before practical problems can be solved. It must sustain the studies that were only moderately successful and those that dived into blind alleys and may not come out into shining light for half a century. It must pay the upkeep on a stockpile of scientific knowledge and experience which enables us promptly to tool laboratories up in such emergencies as that of global warfare.

"Ten Billion Little Dames"

TO SOME the staccato chatter of typewriter keys is but a form of that unavoidable cacophony commerce somehow gathers to itself as it snowballs its way to bigger and better fields of enterprise. Now that we are at war, however, there are some who hear not noise in the dance of the keys but a song of progress as dynamic as a pneumatic riveter putting the finishing touches on the nose of a Liberty bomber.

For a long time now such a song has issued from the Inf. Inquiries and Distribution Service in Washington. Lately each Saturday morning this typing has been executed with such a crescendo that we finally made inquiries. Augmenting the regular force we found 45 high-school students tackling a huge backlog of orders—from victory gardeners, from Members of Congress for Farmers' Bulletins, for mats and grocery-store streamers promoting the Food Fights for Freedom campaign, from farmers, consumers, press, nutritionists, doctors, lawyers, merchants, teachers, and librarians—47,000 orders, to be exact, which we learned was the number of requests received for the week.

While on our tour we came upon a bit of humor that is worth recording. It concerned a cadet from one of the local military academies who is so personable that the office has found it necessary to all but padlock him from the bevy of feminine typists. As we passed the desk of one of the supervisors she showed us a request the cadet had handled for a soil-erosion publication entitled "Ten Billion Little Dams." The cadet's order for the publication read: "Ten Billion Little Dames." "Do you suppose," she wanted to know, "that they really bother him that much?"

Service for farm editors

YOU PROBABLY didn't know that the Department has one man who devotes full time to servicing editors of farm papers. This he does at their express request. For many years he was editor of the leading national livestock journal. He was born and reared on a farm in the Midwest, and was farming and raising sheep in New York State when asked to tackle the job which he has been doing since he came to Washington.

As he is averse to mention of his personal charms, we must stick here to what he does for farm journals. For one thing he gets out a weekly letter to them containing information about USDA and WFA developments and also, coyly, excerpts from the journals themselves, so they can keep up with their competitors painlessly. This letter runs 16 or 18 pages and is mimeographed.

It goes to 125 farm editors, the more prominent of them known to our man intimately and as friends of long standing as Jack, Bill, or Pete. The farm journals concerned have a combined circulation of 15 million. That the letter is used is quite apparent. Often gobs of it appear in the journals as written, sometimes with the writer's name attached as author. Most of the journals frequently use part of it.

A dependable man

The service also includes answering numerous letters, wires, and long-distance phone calls for bulletins, other publications, and information generally. Editors of the farm press know that they can depend on our man and they do. They know he is prompt and thorough. The service he gives was not dreamed up by anyone in the USDA. It was specifically demanded by the farm editors themselves and the kindly public servant who satisfies them is DeWitt C. Wing, Inf.

Brief but important

Courses for service people: USDA and WFA are cooperating with the U. S. Armed Forces Institute and some 80 colleges and universities in offering correspondence courses at very low cost to men and women in the armed forces. The courses are recognized by Civil Service under the educational requirements for Federal jobs. Further information is available from bureau personnel representatives or Pers. Division of Training.

Air raid precautions: It seems some Department people have become a bit too complacent about practice air raids in Washington. So P&O Circular 145 calls attention to the fact that a Secretary's Memorandum issued back in December 1941—remember that month?—set up an air raid wardens' organization which is still intact. After all, *it's better to have many practice air raids than just one real one.*

One thousand from AAA: Lamar L. Walters, AAA, Baton Rouge, La., was the thousandth employee in AAA to join the armed forces. Chief N. E. Dodd wrote him personally an inspiring patriotic letter.

Dr. Shantz retires: Homer L. Shantz, head of the FS Division of Wildlife Management, retired April 15. He came to the Department in 1907, left in 1926 to head the University of Illinois botany department, and 2 years later became president of the University of Arizona. He returned in 1936, in FS, and through his studies of wildlife and travels in foreign lands, acquired a world-wide reputation as an agricultural and natural scientist and educator.

What's the big idea? H. S. Person, consultant in business economics and management, expert on scientific management, and also consultant of REA, spoke on his specialty to a group of USDA employees recently. His system is based primarily on definition of a general objective, ways and means of its achievement, the required frame of organization, specification of major responsibilities, competent personnel, and so on. But he says the system meets more difficulties in Government than in private institutions like business or factories because new heads of new Government agencies can rarely if ever clearly define their unit's general objectives. He couldn't cite a case where this was done. That makes the application of scientific management very uphill work. Any comments?

Veterans aid timber project: Two Wisconsin boys who were wounded in the South Pacific are helping FS in its war timber production project. One, from Eau Claire, had been a truck driver before the war; the other, a Milwaukeean, went from high school into military service. Both had had ambitions to be foresters, and when FS asked the director of vocational rehabilitation at the Milwaukee veterans' facility for a couple of wounded men to help on timber production, it was their big chance. They are working with farm woods owners and timber operators to help increase lumber production for war under proper forestry methods which safeguard future timber growth.

Emergency farm workers: Last year many Department employees, by working on farms one day a week, week-ends, or during vacations, helped to harvest crops that might otherwise have been lost. This year, farmers have been asked to produce more food than ever before and the labor shortage is more serious. Workers get the prevailing farm wages of the area where they are sent. Will you help? Bureau contact officers have complete information and registration blanks.

Rabbiteye blueberries: In the Coastal Plain and Piedmont area, many growers of rabbiteye blueberries need a step-ladder to pick the fruit. This variety grows faster and higher than other blueberry species, mature bushes often reaching 15 feet. Yields of 2,000 quarts to an acre are not unusual in this area, where this variety is becoming popular.

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U. S. GOVERNMENT PRINTING OFFICE: 1944

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FOR MAY 13, 1944

Foreign Agricultural Relations

EVER SINCE the establishment of the Department in 1862 some of its employees or units have been charged with the function of securing, interpreting, and disseminating information on foreign production and consumption of farm commodities. In 1917 a Foreign Markets Investigation Division was set up in the Bureau of Markets. By 1930 this had evolved into a Division of Foreign Agricultural Service in BAE. The Division went into the Office of the Secretary in 1938.

In 1939 Reorganization Plan No. II transformed it into the Office of Foreign Agricultural Relations. Its basic functions have been rendered more urgently important by war, though it still collects the latest and most authentic agricultural information from abroad and processes this into statements and analyses of world agricultural developments. But today it primarily serves the armed forces and the war agencies instead of peaceful farmers and shrewd business men.

Peacetime job

One peacetime job of the Office is to keep the foreign agricultural picture as current and complete as possible, and to make it readily available to public and private interests. This requires continuous determination of foreign demand for, and competition with, United States farm products; keeping our farmers posted on how to get their goods to foreign markets and how best to meet competition there; and warning them of dangers ahead, especially of losses they may have to shoulder unless they adjust operations in accordance with changing world developments.

The Office also acts as the USDA liaison with the Department of State on matters affecting our foreign agricultural relations. As such it plans, directs, and coordinates the USDA's general program of cooperation with the other American Republics and represents the USDA in the negotiation of reciprocal trade agreements.

War services

Nowadays, in the interest of the Nation's war effort, the function of the Office in providing an accurate and up-to-the-minute picture of the food and agricultural situation of enemy and Allied nations is even more important. And despite the fact that war-related conditions in virtually every part of the globe have made the gathering of this strategic information much more difficult, the Office is filling out that picture—in detail! For it is a vital matter.

Not satisfied with just supplying farmers and business men with essential informational needs, the Office is now cooperating with the armed forces in the preparation of comprehensive handbooks on the agriculture and food requirements of Axis and Axis-occupied countries for use in areas of operations and in training for military government. Information concerning food needs and agricultural production also is being made available to the civilian Government agencies—for example, the Foreign Economic Administration and the United Nations Relief and Rehabilitation Administration—that are concerned with taking over food requirements where the work of the military government ends, and with handling relief, rehabilitation, and agricultural development in the war-torn areas.

Because of its relations to the United Nations' war effort, the Office's responsibility in planning, directing, and coordinating the U. S. Government's program of agricultural cooperation with that of the other American Republics has taken on an important strategic character. While this job has both emergency and long-time aspects, its emergency phases for the time being naturally are paramount.

For example

The complementary-products cooperative experiment-stations project is one example. Sometime prior to the war, the Office, with specially appropriated funds and in cooperation with other Department agencies, undertook to study the possibilities of stimulating commercial production in Latin America of cinchona (for quinine), rubber, fibers such as manila hemp, various insecticidal plants, and numerous other tropical products—all of which were more or less complementary to our own products.

With the outbreak of the war, however, followed by Japanese conquest of the Far East, the U. S. was cut off from its former sources of supply for these products. They immediately became highly strategic. Under the urgent necessity of supplying these and other strategic products to the war machine of the United Nations, this project has been speeded up to double quick.

Through written agreement between the U. S. and the countries concerned, cooperative experiment stations now have been established in Peru, Ecuador, Nicaragua, and El Salvador, and preliminary steps have been taken to establish others. To these stations the U. S. has supplied agricultural scientists and certain technical equipment, while the other country concerned has supplied the necessary land, buildings, labor, associate scientists, transportation, and routine equipment. Here at these stations, and as fast as the growing seasons permit, scientists are busy developing new disease-resistant, high-yielding strains of strategic commodities suited to the American tropics.

After the war these commodities probably will become the basis of a greater and more mutually profitable inter-American trade. Thus even Mars subtly builds toward peace.

Farm councils for OPA: The first Agricultural Advisory Council for OPA has been set up in the Colorado OPA District Office. Individual farm representatives for dairy, fruit, poultry, and so on have been appointed on the council to serve as advisers. The State council acts as a clearing house for problems concerning more than one commodity and each commodity representative serves as chairman of a subcommittee to handle problems of that commodity. Similar councils will probably be established in other OPA districts.

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USDA at the grass roots

THIS USDA is an amazing institution, but you don't realize it sitting in an office at headquarters. In fact, adverse criticism of USDA, WFA, and all their works, tends to get you down. You feel frustrated. You attend meetings, try to help make plans, see new publications and projects on their way and then, though everything sure leaves here with a bang, you wonder if anything happens out there.

Well, something does. Those field people are not asleep. Ride the circuit for a few days each with extension workers in North Carolina, Alabama, Louisiana, and Tennessee; look in on Tuskegee, the Southern Regional Research Laboratory, and the Negro land-grant college called Southern University; meet with the USDA Clubs of New Orleans, Baton Rouge, Birmingham, and Knoxville, and you feel different.

The thing is reaching the grass roots. Neat little bulletins and austere scientific publications that you saw in Washington here take on life and assume form and substance. Home demonstration agents, extension editors and county agents, neighborhood and community leaders, home demonstration clubs, and the 4–H kids are all busy translating technical information into practice.

Planned revolution

It's an inspiring thing to find out how the fact that she lives in squalid surroundings will take hold of some farm woman like conviction of sin. She may call the home demonstration agent late in the evening of a heavy day to plan the revolution of her home and the regeneration of its grounds. The husband, tired, diffident, and sometimes obstinately noncooperative, somehow is brought around to see the light.

The home's interior is transformed with new and tasteful redecoration, changes in placement of the furniture, attractive curtains, more convenient kitchens. The exterior soon blossoms in new shrubs—the farmer sheepishly makes out he doesn't know their botanical names, but he really does—and trees, all placed according to plan. The farm becomes a demonstration project that all who run may read.

You come upon a county-wide demonstration-club council meeting of these farm ladies, indistinguishable from their city sisters, carrying on with perfect poise under parliamentary law. You visit other groups of them making bandages, learning how to prepare new and economical nonmeat dishes or to mend and reweave—talking of health, Victory Gardens, Red Cross, and poultry raising.

It pays

You visit hill farmers in Tennessee who have fed 15 and 20 percent slopes with fertilizer and pastured them, diversified their crops, saved their soil and, by following scientific practices, have doubled their farms' cash income in a few years. TVA helps, of course, but, like the farm women, the farmers credit extension workers with being their guide and inspiration, and they say the new methods would pay even if they had to buy all the fertilizer TVA gives them.

In a Louisiana parish the 4–H clubbers are having their Achievement Day with contests of all sorts from club yells to poultry grading and back again. The kids have enthusiasm, composure in presenting their information, and they know how to put scientific knowledge to work. They compete seriously and they learn how to be the dependable citizens of tomorrow. Crops and homes are being improved, washed and eroded land is being recovered, hillside topsoil is being conserved, and rural human natural resources are being utilized to the best advantage.

He weeps to see

A son, returning to his beautified home on furlough from the Army, hardly recognizes it and bursts into tears as he surveys it. He wants to know how mother ever did that herself. A hardy farmer in his sixties shyly kicks the soil as he tells you that in emergencies it was Ext., SCS, FSA, AAA, or other USDA people who guided him and enabled him to get along.

He tells you he now produces as much as ever on half his former acreage, has added livestock, and saves the soil besides. He has learned how to close ranks as his sons were drafted and to produce regardless of labor shortages. His two daughters are as comely and as modern in appearance as any women you'd see anywhere. His is a test demonstration farm and his wife is a neighborhood leader in food preservation and home demonstration work generally.

You see pantries bursting with the food farm women were asked to can. You see yards more beautiful than those we suggested. You find neither the needy nor the Negro neglected, but all working together to one common purpose. You delightedly discover that our programs do strike home on the soil and do advance farm living standards, and you are more content. You return to that office chair more confident and less uneasy.

Things do add up to something, and that's just fine and dandy.

War Loan Drive

APRIL pay-roll deductions for war bonds showed that 87 percent of Department people are putting 10.1 percent of their salaries into bonds. We ought to make it 100 percent participation during the present "tune-up" campaign to increase regular bond buying through pay-rolls. This campaign is preliminary to the Fifth War Loan Drive, which will run from June 12 to July 8.

During the Fifth War Loan Drive, both pay-roll deductions and cash sales for the entire months of June and July will count toward our quotas, thus spreading them over 4 pay days. Each Government employee will be asked to invest 40 percent of one month's pay in bonds. *This is the safest investment in the world. Let's back up our fellow Americans in the service by going over the top in this drive.*

Great onion mystery

TIME WAS when an onion was taken for granted. It was always there if you wanted it but you could always let it alone if "that" date loomed. Then suddenly there were almost no onions. A great dearth of their aroma spread over the land. The reason is easy enough to account. The rains came down hard last summer just when growers throughout the country were planting their early summer crops, delaying planting or washing out the onions that had already been planted. The remnant of the plantings struggled with the weeds.

So it happened that the onion crop, which normally goes into storage to keep civilians well flavored during the late winter, was considerably smaller than the previous year. The fall of 1943 came through with only 11,500,000 sacks of 100 pounds each, compared with the '42 storage crop of 13,700,000 sacks.

Then one fine October morning, civilians woke up and found potatoes back again. There were so many potatoes that it was necessary to celebrate with a Victory Food Selection. Next oranges arrived, and the scurvy *Putsch* was postponed. Then onions began moving.

By the first of April, 184 cars (about 5,520,000 pounds) had moved out of Texas. By April 10, 480 cars (14,400,000 pounds) had brought a cargo more precious than lumps of gold. Ordinarily we start to get these early onions by April 1.

Things to come

Now for predictions of things to come and statistics. This year 70,600 acres were available for harvest in southern Texas. This is a substantial increase over the 28,000 acres harvested in 1943. Reports of late spring acreage in north Texas, Georgia, California, and Louisiana indicate a decrease of about 1,400 acres from 1943. The early summer crop out of California, Washington, Iowa, Oklahoma, Kentucky, Virginia, and New Jersey "spells" an increase of more than 30 percent over the 1943 acreage.

Continuing in this statistical mood, we note that these early and late spring, and early summer onion crops total an expected acreage of 97,070, compared with last year's 54,150 harvested acres and the 10-year average of 73,260.

Not bad. Matter of fact, pretty good, and something to cheer the chef's heart, and revive the wilted spirits of onion addicts all over the land.

Buffalo Bill's pal

JESSE W. NELSON, one of the real old-timers of the FS, retired on April 30 after nearly 44 years in important administrative and research positions. Mr. Nelson began his career in 1900 as forest ranger on the Yellowstone Forest Reserve, Wyoming, then in the General Land Office, Department of the Interior.

Since the establishment of the FS in 1905, he has occupied responsible posts, including those of forest supervisor, chief of range and wildlife management in Regions 2 and 5, and inspector of grazing throughout the West for 5 years, with headquarters in the Washington Office. For the past 9 years Nelson has been superintendent of the San Joaquin Experimental Range in California.

"Nelson is one of the most colorful figures in the FS," says M. W. Talbot, Acting Director of the California Forest Experiment Station, "having had not only a rich and varied official experience in public service in forest and wild-land conservation, but in addition a most unusual practical background. As grazing administrator he was widely known throughout livestock-industry circles, both State and National. Not so well known, except to a few of his earlier associates, is the fact that for several years he was a bronco rider and star performer in the wild west shows of Col. Cody (Buffalo Bill). For a time he was also manager of one of Col. Cody's Wyoming ranches."

Mrs. Yeatman retires

A WOMAN scientist who has done her full share toward making Americans better cooks retired from HNHE April 30.

Mrs. Fanny Walker Yeatman came to the Department in 1917. Her first laboratory assignment was to try out recipes to popularize corn meal for the wheatless days of World War I, and her latest was to work with soya recipes in another war. Her experimental cookery between wars has included foods from reindeer to rabbits—Welsh, wild, and tame. Devoting special attention to jelly, she has experimented with every fruit and made long series of tests of flavor, appearance, and keeping quality.

Results of her experimental work have gone out to consumers in bulletins, to newspapers, and by radio broadcasts. The green-backed bulletin, Aunt Sammy's Radio Recipes, by Ruth Van Deman and Mrs. Yeatman, has gone through several editions and the 1931 revision has totaled 1,929,089 copies—as of April 1944.

When 100 of Mrs. Yeatman's colleagues gave her a dinner April 21, a feature of the evening was the exhibition of the 14 bulletins which bear her name and the Braille edition of "Aunt Sammy" for blind homemakers. The plates for this were made by the Library of Congress.

Egg deluge

A LOT of people want to know why the supplies of certain foods swing between scarcity and glut. For instance, the Government asked for more eggs. It got more than it knew what to do with. Certain localities normally in deficit in eggs lacked market facilities and dehydrating plants to use the hen fruit. Was the Government at fault?

One trouble is that a hen, though a sedate looking creature, is pretty difficult to turn off once she gets started and has an E award in mind. When a freak warm wave tricks her into thinking spring has come, it is not difficult for her to fulfill her obligations to the tune of 66 billion eggs, and that is an awful pile of raw material for omelettes.

We have to pitch in now and help the hen out. It is not so unfortunate after all for us to be called upon to dispose of 5½ billion dozen eggs when other countries have only the most meager supplies.

Eggs to your choice

Eggs respond to 3 minutes or 4, sunny-side over or gentle. They can be disguised with peppers, tomatoes, mushrooms, jellies, and livers, and the result presented as an omelette. Hard boiled, deviled, fried, poached, scrambled, baked, dropped in soup, foamed into a borsch, transformed into custards, or used with macaroni or rice to become a meat alternate—it's all eggs!

Use as many eggs as possible for food. Eggs deserve your serious and devoted attention. If the Department scientists can, they'll surely invent a device to put the eggs back into the hens for safekeeping when too abundant. Meanwhile do all you can to turn the surplus into wholesome food. And remember that ambitious hens, warm weather, and genially cooperating farmers combine efforts to give us the abundance.

Efficiency rating review board

EFFICIENCY ratings can and should be used by management and by workers alike as a fact-finding device. They constitute a report to the worker, to management, and to the public of the facts about the work performance of every classified employee in the Department.

The career of each employee, in terms of within-grade salary advancements, reductions in force and grade promotions, is vitally affected by his efficiency rating. The accuracy of ratings is, therefore, paramount. Any inaccuracy in any rating is serious.

However, ratings are made by human beings and human beings make mistakes. Some ratings may be inaccurate. Therefore, there must be a court to which ratings may be appealed. Since justice must be done to the employee, the Department, and the public, the court of appeals, our USDA Board of Review on Efficiency Ratings, represents those three groups. Of its three members one, the employee member, is elected by and represents USDA employees.

Employee member

It is to the interest of each USDA worker that the employee member be

prepared to represent the best interests of employees. Hence employees are urged to exercise their right to nominate candidates and to vote for their representative on the Board of Review in the forthcoming election of the employee member of the board.

The right to nominate and vote for the employee board member is limited at present to Washington workers. It is hoped that this right can be extended to field employees in the near future, just as the right to appeal to the board has been extended to them recently.

War Board Chairman

COL. Everett R. Cook, a native of Memphis, Tenn., has been appointed chairman of the National War Board. He has been in the cotton merchandizing and exporting business in his native city for many years. He was an ace flyer in World War I who rose to rank of captain and received the Distinguished Service Cross, Silver Star Medal, and the French Croix de Guerre with Palm.

He was sent to Peru by our Government in 1942 to work out a cotton purchase agreement and on his return became Vice President of CCC in charge of the Foreign Purchase Division. He later re-entered the Air Force and went to England to serve under Lt. Gen. Spaatz as Deputy Chief of Staff for the Air Force in the United Kingdom. Subsequently he served as Assistant and as Deputy Chief of Staff of the Northwest African Air Forces and on October 4, 1943, was awarded the Legion of Merit by command of Gen. Eisenhower.

Safety Council

THE fourth monthly meeting of the Department Safety Council, set up under Pers., was held on April 19. Members bring questions on safety, health, and fire prevention for discussion and technical advice, pertaining not only to specific safety and health bulletins but also to equipment, processes, and operations carried on by each organization.

Safety should be considered in the writing of every field bulletin covering operations where accident, fire, and health hazards are present. Confusion and embarrassment result when published material recommends or depicts procedures which are not acceptable in existing safety practices.

The council membership includes several safety engineers with long experience in both industrial and Government operations. Accident records of the Department and other Government agencies are available for reference. The principal object of the council is to permit all agencies to profit by the services of these men and the experience of other agencies.

Department employees preparing material for publication should check with those responsible for safety work when there is any question concerning safety matters.

Brief but important

Assisting returned vets: Administrator's Memorandum 43, April 18, with attached statement of operational procedure, explains how Ext. will be expected to aid such demobilized war veterans as wish to become established in or return to agriculture. Nonpaid county advisory committees will be utilized, local county agents being responsible for their establishment. The plan has been developed in consultation with Selective Service. For details see the memo which indicates that a lot of clear-headed postwar planning is going on in the field of agriculture.

Advertisers and farm labor: State and county agricultural extension agents must try to recruit 4 million seasonal and temporary workers for peak harvest-time this year. Advertisers will help. Thirty advertising clubs from coast to coast have already promised to devote one day of their May or early June meetings to WFA's Nation-wide program to recruit volunteer workers on farms. Nine businessmen speakers have been appointed WFA collaborators to address these clubs. The matter will also be presented at the annual convention of the Pacific Advertising Association, Fresno, Calif., June 12–13.

"Dollars-and-Cents Research": It is sugested that you read an article under this title in Country Gentleman for May 1944 if you want to find out how one Department research project which cost $10,000 gave a return of $10,000,000 in one year and how another costing about $36,000 returned $1,100,000 in a year. These are large dividends. But, as Research Administrator Auchter says, such dividends cannot be guaranteed on any new project at its inception. Yet the most abstract pure research often suddenly gives a huge monetary return in practice. Since the returns often come in the form of human well-being, happiness, and improved health and efficiency, dollar values are difficult to calculate but, rest assured, they are there.

Chase WFA Director of Transportation: Elwood Chase replaces Mark Upson, who resigned to return to private business in Ohio. Mr. Chase is a native of Maryland. For the past 20 years he has been in the grain and feed business in Buffalo. Prior to that, he had been county agricultural agent in Ulster County, N. Y., and in farm management and extension work in New Jersey.

USDA mimeographs: A recent field trip disclosed that many employees outside Washington are eager to get hold of material that we issue in mimeographed form and in limited quantity. If you want two or three copies of any of the following, just write us: Structure, Functions, and Origins of the Department of Agriculture and its Constituent Agencies; Abridged Chronology of Agriculture's Part in the War; Condensed History of the U. S. Department of Agriculture; and the Current List of Top Officials of the Department of Agriculture and War Food Administration. Remember we lack facilities to maintain a mailing list and that you must write in for new copies whenever you think the ones you have are out of date.

From our readers: O. C. Stine, head of BAE Division of Statistical and Historical Research: "Congratulations on the *USDA* for April 1. I am particularly interested in noting the sketches of Atwater and Wiley. * * * Wiley is a picturesque character that deserves a full-dress biography, perhaps Atwater also. Knowledge of the work of such men is stimulating to youthful scientists."

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USDA

FOR MAY 27, 1944

Commodity Credit Corporation

THE CCC is one of the major Government agencies which financially implements the war food program.

It lends money to farmers at 85 to 90 percent of the parity prices of wheat, corn, cotton, tobacco, and other crops. It supplies the money to buy at price-support levels the commodities needed for lend-lease and other purposes. It sells from accumulated granary stocks the products needed to maintain a high level of war food production and supply.

Under wartime powers, CCC buys and sells all the soybeans to be processed for oil and meal; all the peanuts to be processed for oil and meal and for edible uses; all the domestic wool; all the sugar imported from the Caribbean. It pays out to dairymen the sums designated to offset the increase in the cost of feed since September 1942. Currently, it is importing feed grains from Canada to supplement our diminished feed supplies.

With total emphasis on war tasks, CCC does all these things and more in supporting prices to farmers and in protecing food price ceilings for both producers and consumers. Its operations cover more than 50 agricultural commodities—each having individual peculiarities and far-reaching ramifications and each requiring individual attention.

Expenses modest

Since we entered World War II, total CCC loans and purchases have exceeded 8 billion dollars—more than 300 million dollars a month, more than 10 million dollars a day. In contrast, its wartime administrative expenses have averaged little more than 4 million dollars a year—333 thousand dollars a month, 11 thousand dollars a day. *Its administrative expense is one dollar for each thousand dollars of loans and purchases.*

CCC handles this vast volume of business with a Washington staff of 247 and a field staff of 1,377 employees. The work is carried on through 6 regional offices. Cooperating agencies include farmer cooperative associations, county AAA committees, Reconstruction Finance Corporation loan agencies, Federal Reserve Banks, about 11,000 private banks, and various commercial agencies acting under contract.

Before the war

For readers who are not in CCC, this agency was incorporated under an Executive Order dated October 16, 1933, and the laws of Delaware. It became part of the Department under Reorganization Plan No. I. Exclusive voting rights in its stock were vested in the Secretary by Executive Order dated August 7, 1939, and other orders in the spring of 1943 made it part of WFA.

Before the war, the principal activity of CCC was the making of loans on cotton, corn, wheat, and other basic commodities as part of the agricultural production and price-stabilization programs initiated by the Federal Government in 1933. Loans were made to farmers on crops in seasonal and annual surplus for redemption during periods of subsequent need or for addition to the Ever Normal Granary.

The accumulation of commodities under loan stood in good stead during the droughts of 1934 and 1936. During subsequent years they helped make possible the unprecedented war expansion in the production of milk, meat, eggs, and other livestock products required for military and civilian consumption.

During the entire period from 1933 through 1941 about 3 billion dollars of CCC loans were involved in the price-stabilization phases of the pre-war agricultural economy—less in 7 pre-war years than in any one war year.

After the war

Post-war, the volume of business will probably be much larger than pre-war, since legislation requires that certain commodities be supported at 85 to 90 percent of parity prices for 2 years after the war.

Currently, CCC has 3 billion dollars of borrowing power. Loans outstanding on all commodities total 600 million dollars, commodities owned total 800 million dollars, and receivables on account of lend-lease total 350 million dollars.

Down to earth on post-war planning

DID you know that the Department has its program to help rural communities make their post-war plans? Did you know that it is coordinated with other Government agencies and with private organizations like the Committee for Economic Development? Did you know that USDA technical personnel are already at work in two towns?

This is what the program is designed to do: (1) Get businessmen, farmers, labor, and Government officials to organize and to develop programs to provide as many jobs as possible after the war; (2) make a survey to find out how many post-war jobs will be ready and open to the people in the town, returning war veterans, and war workers; (3) draw up plans for new private employment and new industries where necessary to provide jobs; (4) study the local demands for all kinds of products consumed.

Help from national agencies will give the community State and National perspective as well as down-to-earth advice. It is hoped that these efforts will make a significant contribution towards absorbing the prospective surplus of workers on farms and towards providing larger and sustained markets for agricultural products.

What Albert Lea did

In Albert Lea, Minn., under the leadership of CED, the Minneapolis Federal Reserve Bank, University of Minnesota, and other cooperating agencies, a community check of jobs in prospect revealed that Albert Lea would probably have 593 unemployed in 1946. They made plans to provide for this many additional jobs. What about your town?

Dr. Mordecai Ezekiel, national activity leader for rural-urban studies, heads up the Department side of the program. Dr. Ezekiel says that the community

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surveys which we help will follow the general lines of the Albert Lea plan. They will be more intensive and pointed to more positive action, so that communities actually try to meet the post-war problem as well as to survey it.

In these rural-urban surveys the Department has the cooperation of the Land-Grant Colleges, the Smaller War Plants Corporation, Federal Reserve Banks, Federal Commerce and Labor Departments, the Committee for Economic Development, schools of business and industry, railroads, and labor organizations. All these join in furnishing technical help to the communities that require this service, including engineers, economists, and technicians.

Requests for aid in your community should be made to Dr. Ezekiel.

Walter G. Campbell

THE recent retirement of the Commissioner of Foods and Drugs, head of the Food and Drug Administration of the Federal Security Agency, also concerns us in Agriculture. This Administration was created a USDA bureau in 1927 when it left the old Bureau of Chemistry. It left the Department June 30, 1940, under one of the President's reorganization plans.

Campbell, a young lawyer from Knox County, Ky., was selected by Dr. Harvey W. Wiley to become Chief Food and Drug Inspector in 1907, the year after the first Food and Drug Law was enacted. He organized the inspection staff on a Nation-wide basis and formulated plans for their future operations.

In 1916, when Dr. Carl L. Alsberg was Chief of the Bureau, Campbell was appointed Assistant Chief. He was placed in charge of all food and drug enforcement work. He became Director of Regulatory Work of the Department in 1923 and so remained until this job was abolished at his own insistence. Here was one bureaucrat who prevailed on the Secretary to discontinue his position. He also took a salary cut.

He wasn't slipping

In 1927 he organized the Food and Drug Administration which he directed until his retirement. Many of the chemists of those days affected to be aggrieved that a "mere lawyer" should have this job, but they found out he was the man for it. This he proved to the hilt. He was a potent force in the enactment of the Food, Drug, and Cosmetic Act of 1938, one of the most effective laws ever enacted for consumer protection.

Characteristically enough, he retired before old age slowed him down. He didn't want people saying the old man was losing his grip. He was an outstanding public servant, high in competence and integrity, much underpaid (he refused handsome outside offers), courageous, intelligent. He well deserves to do exactly as he pleases the rest of his life and we hope that each day of his retirement will be a delight.

Our Advisory Board

AS YOU can see in the masthead on page 4, our Editorial Advisory Board is again complete. Previous unannounced changes have been caused by resignations or departures into the armed forces. We are happy to say that Assistant War Food Administrator Wilson Cowen has consented to become chairman, taking the place vacated by Under Secretary Appleby's resignation.

Assistant Chief Donovan of AIC, who, busy as he is, has given us good service for which we are very grateful, has graciously consented to leave the board when requested, because ARA had two members while six big line or program agencies were unrepresented. This enabled us to appoint members in FS and SCS.

"Who dunnit?"

THE methylolurea treatment of wood to make it more stable, harder, stiffer, and more durable—which was publicized recently by du Pont—was pioneered at the Forest Products Laboratory. The laboratory's work covers treatments with straight urea and with combinations of urea and other chemicals.

The laboratory first released information on treatments in a mimeograph in October 1941. That mimeograph was subsequently reproduced in the du Pont Agriculture News Letter of November–December 1941, Volume 9, No. 6.

The laboratory uses the names Uralloy A, Uralloy B, and Uralloy C and Uralloy D to designate the products treated with straight urea and urea combinations. The basic work on these treatments and products is covered by the following public patents: 2,298,017 issued October 6, 1942; 2,313,953 issued March 16, 1943; and 2,343,016 issued February 29, 1944.

The laboratory's 1941 mimeograph was revised in August 1943 to include the results of its latest work on the Uralloys. The revised mimeograph is entitled "Forest Products Laboratory Urea-Plasticized Wood (Uralloy)."

Puerto Rico Station

DIRECTOR Kenneth A. Bartlett of the Federal Experiment Station at Mayagüez, P. R., has been making his annual visit to OES in Washington. He is a New Englander who has acquired a mahogany tan and likes it.

The station, established in 1901, comprises 440 acres, much of it ceded to the Department by the Puerto Ricans. Some of the acreage lies near sea level, some is at an elevation of 1,000 feet, and some at elevations of from 2,500 to 3,800 feet. The station thus has a variety of climatic and environmental conditions for undertaking its experimental program.

Doesn't it rain!

Puerto Rico has a very uniform climate. The temperature at Mayagüez rarely drops below 58° or shoots above 90° F. On the average only 5 days each year wholly lack sunshine. It rains 214 days a year, however, though in pretty easily calculable periods. In fact, you can almost set your watch by the daily shower and it is nothing to be caught out in.

For when it rains it pours. Not only is the average rainfall of Mayagüez slightly over 80 inches annually, but 60 inches fall between April 1 and October 1, mostly in the afternoon between 1 and 3. Nothing short of the human pelt will protect you in this tropical deluge which wets through in spite of all precautions.

Outstanding accomplishments

Unquestionably the outstanding contribution of the Puerto Rico Station was the introduction and subsequent breeding of sugarcane varieties that saved the local industry from disaster via mosaic. The new varieties established are now grown extensively. Resultant savings having run into millions of dollars.

Then there is the giant toad—*Bufo marimus*, to speak familiarly—introduced in 1920 to feed on beetles that produce a white grub which, in turn, can completely destroy cane fields. The toads work without pay and have eliminated the problem presented by the grub, a rather novel insect-eradication technique—except to entomologists.

A sweet corn variety, adapted to tropical conditions and known as U. S. D. A. 34, has also been developed by selection. It is now grown extensively in both Old and New World tropics, and is the only one that is as satisfactory in production and quality as temperate-zone varieties.

Vanilla, derris, quinine

Among new crops tested out for introduction in recent years, vanilla and bamboo look very promising. Both have already assumed important places in the island economy. Meanwhile, in cooperation with EPQ, a project for the introduction and testing of beneficial insects and predators is generally helpful.

The most recent and outstanding contribution has been the distribution of derris cuttings to Latin America. This plant, a fine source of the insecticide rotenone, was originally imported from the Far East. Since the war with Japan, indeed in the past 18 months, about 2 million cuttings have been distributed from Puerto Rico by FAR and the Foreign Economic Administration. The help this will be to American farmers can readily be appreciated.

The station has recently been engaged in research on *Cinchona* from which quinine is obtained. Extensive plantings of high-yielding material have been made in cooperation with the Defense Supplies Corporation. PISAE supplied the seedlings. It is hoped that in this way the U. S. can have a nearby constant source of supply.

In general, it is exceedingly valuable to this hemisphere to have this tropically located agricultural experiment station. Just now it is proving of exceptional value in connection with war programs. But it will remain in peacetime, a permanent asset.

FCA Health Program

SOON AFTER FCA moved to Kansas City, Mo., in 1942, charts kept by Personnel Director Cecil Johnson showed a rise in sick leave, compared with FCA's Washington record. Today that line is turning down. Back of this achievement is engineering and medical gumshoeing and a personnel program that didn't stop with appointments, terminations, and record keeping.

The greatest increase in sick leave resulted from respiratory troubles. The finger pointed to the air supply. FCA is housed in Kansas City's Municipal Auditorium, in an exhibition hall never designed to have a second floor at balcony level, nor to have two and a half miles of partitions in what was once a vast open area. Result: Air didn't circulate properly. Engineers and the Personnel Division went to work. When Personnel put the question up to the solicitor authority to hire a doctor was found in original FCA acts.

Preventive medicine

Now Dr. Irene Keeling is on duty part of every day—not examining, not prescribing, but counseling. Under her direction, nearly every employee has received an intradermal tuberculin test. Lacking portable X-ray equipment, Personnel arranged for employees to be X-rayed in a radiologist's office at $1 apiece. Two hundred did and got reports which covered not only lungs but heart and bronchial tubes, too. Next aims are tests for anemia and counsel on food and diet, tied in with the Victory Gardens.

The FCA employees' club cooperates. It arranged for wholesale purchase of vitamins and saved its members nearly $3,500 last year. Its president is a member of a three-man health committee which receives employees' suggestions, requests, and complaints.

The time is too short to say how completely effective FCA's program is, but Personnel Director Johnson says, "Preliminary study indicates it is having an important effect. We believe it has improved the morale of employees, too."

Training industrial feeding specialists

THIRTY industrial feeding specialists met in Washington the last week of April to attend a "working conference" called by Dist. Civilian Food Requirements Branch. These specialists came in from the field to discuss problems involved in starting and operating a successful in-plant feeding program.

Keynoting the meeting with a round-up statement of the objectives of the industrial feeding program, Norman Leon Gold, Chief of the Branch, said:

> The proposition we are dedicating ourselves to in industrial feeding is adequate food for civilians. Our commodity is good, sound, technical advice. The title "industrial feeding specialist" involves many phases of such advice. We should be rationing and price experts; survey specialists; architectural and human engineers; nutritionists. It involves the broadest concept of technical advice in the newly developed field of industrial feeding operations. With impetus inspired by war needs, industrial feeding is one of the emergency programs which may well develop into a permanent project.

On-job feeding pays

It was pointed out that on-the-job feeding "pays off" in terms of increased production. It also puts the hex on absenteeism, accidents, and "metabolic" stress.

Besides having a thorough background in nutrition, the industrial feeding specialist must be a specially "endowed" civil servant with tentacles that embrace a knowledge of equipment standards. He or she should possess "a round-table manner" acceptable to labor and management, have dabbled in entomology, be master of the the art of making friends and influencing people, with ability to speak, if not eloquently, then certainly convincingly. Add to these job-sheet qualifications, a three-cornered cognizance of the manpower, equipment, and rationing problems that confront a Nation at war, and you have a portrait of an industrial feeding specialist.

No fooling, it's a tough assignment, and WFA's staff needs all the cooperation that labor and management and the Inter-Agency Committee on Food for Workers (see *USDA* April 1, p. 5) can give it.

Basic 7 again

"Major responsibility of the industrial feeding specialists attending this conference," said Dr. Robert Goodhart (the 'grandfather of industrial feeding,' according to Dr. Gold), "is to insure a 'Basic 7' diet for war workers. In general, this can only be accomplished by the expansion of existing food services or the installation of new ones."

Ernestine Perry, another pioneer of industrial feeding, presented an extensive outline for obtaining program acceptance. "Even though facilities have been increased," she said, "there's a big job ahead. The encouraging thing is that we don't have to do it alone. We are able to tap the vast resources of the Inter-Agency Committee on Food for Workers."

Lady cow testers

EXTENSION reports that women and girls are replacing the superior males nowadays as cow testers. Probably hiring the lady testers was a matter of necessity in the first place, but Ext. says they're doing a good job at it.

As far back as 1941, the first lady tester in New York State was trained at Cornell and became supervisor of a dairy herd improvement association. Now there are 20 full-time women supervisors in New York. In New Hampshire *all* testers for the associations are women. Seven of them appeared last year on a Women's Land Army radio program in Boston.

Michigan has 3 and Pennsylvania 15 women working as cow testers.

Most of these feminine cow testers have a farm background and experience and some agricultural training in high school or college. Many of them are former 4–H Club members. The tester in the South Eaton Dairy Herd Improvement Association in Michigan is a former 4–H girl. Sometimes a new woman cow tester takes the place of her husband when he enters the armed forces.

Most important dairy States now give training in this work. There is a great demand for lady cow testers with farm experience.

We're readable

MRS. Amy G. Cowing, who works with Miss Gladys Gallup in Ext., has made a readability analysis of *USDA*. She said the material printed therein checked out at seventh- and eighth-grade levels. We said: "Is that good or bad?" She replied: "To write up the technical research of the Department in language that seventh graders can understand is *achievement*."

This means *USDA* is as readable as Reader's Digest and Liberty, insofar as this test goes. Do you think so, too? See *USDA* for April 15, p. 3, to see what these good ladies are up to. Mrs. Cowing also says she has met a number of *USDA's* "ardent fans." ! ! ! ! (Business of blushing.)

As others see us!

THE following quotations so greatly interested a *USDA* reader that he typed them out and sent them to the editor. They are from Roots in the Earth—A Small Farmer Looks Ahead, a book by P. A. Waring and W. M. Teller, generally favorable to USDA and to SCS and FSA especially. They come from Chapter X, The Small Farmer Looks at the U. S. Department of Agriculture. Waring, by the way, wrote our MP 486, Teamwork To Save Soil and Increase Production, which forms Chapter VII of the Book. The quotes:

> Another problem of administration is that of departmental jealousy. One bureau won't work with another, won't even refer a fellow to another bureau. When a farmer finds it out, he is not only horrified, he is disillusioned. He usually says: "To hell with these Government men!" We've heard them say it. * * * Another problem is that of the theorists in the Department, the men who are determined to work out their theories regardless. These are the desk men who don't know farming at first hand or farmers. We have had field representatives say to us that one of their problems was to dissuade the men higher up from certain plans because they would not work out in the field or in practical application. (p. 134.)
>
> Finally, there is the problem that arises out of the gap which in some measure exists between the USDA and the farmers, the frequent tendency of the Department to lecture the farmers. Someone in Ohio said the other day: "The Department of Agriculture has taken to talking to the farmer instead of for him." This is a danger inherent in the multiple bureaus and should be guarded against. There should be a back-to-the-land movement in the USDA. (p. 135.)

There are several other such criticisms as these two farmers see them. The chapter closes with several constructive recommendations. We should like comments on these quotations. Are these views warranted? Will you let us hear from you?

Negro ag schools

IF THE work being carried on at Tuskegee Institute, of Alabama, and Southern University, of Louisiana, may be taken as an index of what Negro agricultural colleges are doing to help assure increased wartime farm production, well, they are making a sizable contribution. A recent visit to these two institutions disclosed an encouraging eyeful.

With a staff of 19 instructors in agriculture, Tuskegee is carrying on considerable research in soils and in plant, livestock, and poultry breeding. Last year they developed some 300-egg-a-year layers, representing the first ever to be produced by Negro poultry specialists. Through Tuskegee's own field staff and through the regional office for Negro extension work situated on the institute's campus, the results of this experimentation are carried to colored farmers throughout a large part of the South.

Seeing the urgent need for more training in veterinary medicine, Dr. F. D. Patterson, president of Tuskegee, has just succeeded in getting a grant of $495,000 from the General Education Board to establish a division of veterinary medicine, and to improve the library and the home economics department. Within a few years he hopes to be turning out first class veterinarians. At present no Negro college offers training leading to a degree in veterinary medicine.

Southern University

Southern University, near Baton Rouge, is one of 17 land-grant colleges for Negroes. The second Morrill Act, passed August 30, 1890, made specific provision for such institutions. This law clarified, modified, and somewhat extended the provisions of the first Morrill Act signed by President Lincoln July 2, 1862.

While Southern's agricultural staff is considerably smaller than that of Tuskegee and its research much less extensive, through its program of internship agricultural students there are playing an important part in helping the colored farmers of Louisiana to increase their production of vital war crops. These students spend months in rural areas working with farmers in order to get first-hand experience.

The results of the new techniques and innovations they are bringing to Negro farms are reflected in Louisiana's record wartime crops. Both Dr. J. S. Clark, president emeritus, and his son, Felton Granderson Clark, who now heads the institution, are interested in developing a school which, among other things, will provide first-rate training in agriculture and home economics.

Important, too, is the fact that Tuskegee, Southern, and the other Negro agricultural colleges are coordinating their curricula very closely with USDA personnel policies, so that their graduates will be better qualified for State and Federal agricultural positions which become available, or which are established from time to time in connection with the Department's program for more effectively assisting the Nation's 680,000 Negro farmers who are making a sizeable contribution to the war effort and who may also be a big factor in the peace and in "freedom from want."

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USDA

FOR JUNE 12, 1944

Foreign Agricultural Relations

BAI IS 60!

ON MAY 29 BAI attained the respectable age of 60. It has maintained its identity longer than any other Department bureau. It is also our oldest bureau. Yet it has had relatively few heads—only four, the first of whom was the distinguished scientist-veterinarian, D. E. Salmon. He set a high standard of public service. His successors, A. D. Melvin, J. R. Mohler, and the incumbent, A. W. Miller, have maintained it.

BAI was created by a special act of Congress passed in 1884. Although the Department itself had then only a bureau status and was headed by a commissioner, BAI came into it a full-fledged bureau. *It was created because of urgent popular demand.* A problem had arisen which the States themselves could not solve. That problem was the cattle disease, contagious pleuropneumonia.

True, a Veterinary Division had been established in 1879, when William G. Le Duc, son of a French father who came to the U. S. to help us fight the Revolutionary War, was Commissioner of Agriculture. But the menacing spread of contagious pleuropneumonia, accidentally introduced here by a New York milkman who bought an infected cow from a ship, threatened to wipe out our cattle industry.

The States had sought to control the disease, but unsatisfactorily. Sentiment arose for creation of a national bureau to deal with such contagions among farm livestock. We were losing a million dollars annually due to the disease, and bigger losses loomed. Congress, however, was urged by some not to create another army of job holders and they dubbed the BAI bill a "horse doctor bill."

Pre-war accomplishments

But the Grange approved the bill and, in November 1883, a convention of livestock breeders, called by Commissioner of Agriculture Loring, urged favorable action by Congress. William H. Hatch of Missouri introduced the bill and it was passed. Within seven years contagious pleuropneumonia was wiped out in the U. S. *at a total cost of $1,509,100, or about the estimated annual loss in export value of cattle to Great Britain alone at that time.*

Thereafter BAI grew in size and service, working in cooperation with State officials and livestock owners. It completely eradicated seven outbreaks of foot-and-mouth disease and one of European fowl pest. It performed one of the most outstanding pieces of research ever done in the U. S.—determining that insects can transmit a protozoan disease. As a result it has eradicated cattle tick fever to the extent of over 99 percent, and provided information that has proved invaluable in other research on diseases of man and animals.

It reduced tuberculosis of cattle from a national average of 5 percent to that of only .02 percent. It found out how to control hog cholera so that losses were reduced at least two-thirds. It reduced losses from sheep scabies by more than 90 percent and practically eradicated common scabies of cattle and two horse diseases called dourine and glanders. Did this investment pay? Who asked?

Within the past decade Bang's disease (bovine brucellosis) and pullorum disease of poultry have undergone systematic attack and the losses they formerly caused have been greatly reduced. Infections of foreign origin have been excluded. Federal meat inspection was instituted and developed. Outstanding studies of livestock breeding, feeding, and management have resulted not only in several new and better breeds but also in methods for getting more products per pound of feed used.

Wartime activities

In recent years the Bureau's services have been closely geared to defense and war activities. Cooperating with other agencies, it investigated the possibilities of dehydrating beef, pork, and lamb and developed in 1943 a vacuum rotary method that is both simple and rapid. The National Poultry Improvement Plan, which the Bureau administers, contributes to the productive efficiency of the Nation's poultry flocks, now producing both meat and eggs on an unprecedented scale.

Research in 1943 resulted in a cheap, simple method of preserving feathers, needed in large quantities for both military and industrial purposes. The discovery makes possible the salvage and use of millions of pounds of feathers formerly wasted or used only as fertilizer.

Further research showed that open-face sheep—those having little wool on the face—produce about 10 percent more pounds of lamb per year than wool-blind sheep. Swine production studies showed the desirability of fattening hogs to a weight of not more than 275 pounds. Beyond that, the rate of gain drops off and more feed is required to put on a pound of weight.

The grist of the Bureau's research mill amounts to about 100 items a year. In most cases the benefits of research and other services keep on accruing long after the studies are completed. *In the suppression of cattle ticks, for example, the total cost of eradication over a period of 38 years was no greater than the annual loss when the work began.* Thus the benefits are continuous dividends. Some discoveries and services, especially in veterinary science, contribute to human health, thereby transcending financial appraisal.

Research in USDA: We have been making a compilation of the most important scientific achievements of Department research workers during the past 10 to 15 years. We stuck to only the most outstanding discoveries and developments sent to us by ARA, FS, and SCS. But the resulting mimeograph covers 18 pages, single spaced. We are running it off in even more limited quantities than we usually run our other mimeographs, but anyone really interested in this subject, or who can make good use of such a compilation in educating others regarding what a fine scientific institution the Department is, may have a copy and welcome.

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Dr. Stiebeling HNHE Chief

SECRETARY WICKARD has named Dr. Hazel K. Stiebeling to succeed Dr. Henry K. Sherman as HNHE Chief. The appointment will be effective June 30, when Dr. Sherman returns to Columbia University as professor of chemistry. He has been here since March 1943.

Dr. Stiebeling came to the Bureau in 1930 and for many years has headed the work in food economics, which includes food consumption surveys, food habit studies, diets of groups of people, and practical nutritional goals for everyday foods. The techniques Dr. Stiebeling has helped work out are widely used abroad as well as in this country.

Internationally known

In September 1942 Dr. Stiebeling was appointed assistant chief of HNHE. Last year she was given the Borden Award for her studies of dietary habits in the United States.

As a United States representative, Dr. Stiebeling has attended several international meetings on food and nutrition, two in Geneva and one in Buenos Aires, all under the auspices of the League of Nations, and the United Nations Conference on Food and Agriculture at Hot Springs, Va., last year. She is a member of the American Home Economics Association, American Chemical Society, American Institute of Nutrition, and Food and Nutrition Board of the National Research Council.

Safety and Health Handbook

THE SCS Safety and Health Section has issued a practical, comprehensive Safety and Health Handbook. It attacks these important subjects from the right angle—prevention.

The handbook discusses job hazards ranging all the way from minor ones incurred in the office to those present in handling explosives and poison sprays. It covers working conditions conducive to good health, Government preventive medicine, care and proper use of transportation equipment, protective appliances, group life insurance, compensation rights, safety on farms, and many other topics.

The distribution of the handbook is limited. Bureau personnel officers can get it from the SCS Safety and Health Section.

Is Government efficient?

WHATEVER else the guayule rubber project may do it indicates that the answer to this question is: Yes! You may remember that when the project started FS took over the California properties of a private organization engaged in the production of guayule rubber. Then, with PISAE, AIC, and EPQ, it jumped into things.

Initially the procedures used by the private company were followed. Great savings were made from the first. To speed the greatest savings possible, ideas and suggestions of every salaried employee were enlisted and used under a plan worked out by Peter Keplinger, FS, and Dan M. Braum, loaned by Pers.

The responsibility for cutting costs in every job was placed on the person in that job. A new job was offered to any worker who could devise a means of abolishing his job. Details are astonishing. Thus, improved use of planting machines reduced the size of crews from 14 to 10 with a 28 percent saving in labor cost.

Duckboard and weeds

Boards used as tracks when row seeders and cultivators were employed were entirely eliminated. That meant a saving of nearly $1,000,000 and over 3,000 miles of duckboard tracks. Hand weeding of guayule plants was largely eliminated by the use of oil to kill weeds (see *USDA* April 1, p. 3). Whereas only 75 percent of the rubber in the plants was extracted by the private company, the Government found it possible to extract 90 to 95 percent. More efficiency in lifting and packaging nursery stock increased the man-day output nearly 40 percent. In fact, total labor required was cut to one-third that used at the outset. Removing the hulls from the guayule seed will result in reducing the volume handled to a mere one-fifth, thus effecting large savings in treatment and storage costs. Better procedure in fiscal offices greatly reduced the number of clerks required.

Well, that gives you a rough idea. FS and Pers. can give you details.

As a result of such work a new crop—guayule rubber—is possible for the United States.

Send this copy of *USDA* to an employee in the armed forces when through with it.

Vacation leave

THIS IS vacation time! The idea is now going around that everyone needs at least one vacation a year in order to be peppy on the job, and employees are being encouraged to take advantage of the chance to get away from it all.

To make it easier, the Department has relaxed somewhat its 14-day annual leave policy by the allowance of travel time in addition to the 14 work days. In other words, an employee may now be granted a vacation of 14 *work* days plus the number of days required to get to and from his destination. Sundays are included in the travel time.

For example, if a trip requires three days of extra time each way and the vacation starts on Friday, the employee will be allowed Friday and Saturday extra, Sunday being counted as the third travel day. If, however, the employee decides to start his little jaunt on Tuesday, he would be granted Tuesday, Wednesday, and Thursday, and a corresponding amount of time in which to return in addition to the 14 work days.

Dr. Bomberger dies

FRANKLIN BEYERS BOMBERGER died recently at 69. He was a member of the faculty of the University of Maryland. From 1933 until 1942 he was President of the Baltimore Bank for Cooperatives, a branch of the Federal Land Bank. Between 1917 and 1930 he was Assistant Director of Extension for Maryland, and in 1942 was appointed Ext. marketing specialist, in which capacity he was serving at the time of his death.

Between 1900 and 1917 Bomberger taught political science, English, and civics at the university. Among other things he even tried to teach the editor of *USDA* political science and writing. Bomberger was keenly alert mentally. He kept his students constantly stirred up. He was suggestive and stimulating at all times.

Funny thing, we remember him best for being agitated about 1910 because a battleship cost as much as the Library of Congress! What an argument that started in class!

Economy: S. W. Smugg, that relentless critic of Washington, wants the Government to cut its expenses to the bone and quit squandering the tax payers' money. He is human about it, though. He doesn't think the Government should economize on any of the various services it performs for him.—*Miami Journal.*

More mileage from envelopes

A GOOD idea for combating the paper shortage comes from FSA. The Lincoln, Nebr., and Milwaukee, Wis., regional offices decided to get more mileage out of addressographed envelopes by the simple expedient of using them as long as they hold out. Here's the way the plan works:

Each day official papers and correspondence are sent from the regional offices to the county offices in large addressographed envelopes. But, instead of ending up in the wastebasket or a desk drawer, the envelopes are saved, packaged, and at regular intervals are returned to the regional headquarters for use again—and again. Since December 1, more than 5,000 envelopes have been salvaged and kept in service in one region alone. This plan saves not only paper but also manpower used in addressographing.

The plan is spreading to the other 10 regional offices of FSA.

Itinerant apiarist

BACK IN 1934 there retired from USDA, except as collaborator, a remarkable fellow who worked with bees in the then Bureau of Entomology. He is E. L. Sechrist, now in Roscoe, Calif. He began to work for USDA in 1917. He has just published a book called "Honey Getting," and Editor G. H. Cale, of the American Bee Journal, wrote the introduction in which he said, among other things:

> Edward Lloyd Sechrist has brought to beekeeping all those qualities that make greatness in human accomplishment; a lifetime of experience, close observation, high position, unselfish devotion, and extraordinary analysis. This book sums it all up in a fundamental conception of scientific apiculture so new and refreshing as to be revolutionary. There has been before no written word about bees and honey production like it. Beginners who base their first knowledge on it steer a straight course; experts revise their ways with profit.

Sechrist may have seemed a mere rambler, but he was more than that. Born in Ohio in 1873 of Swiss-Pennsylvania-Dutch ancestry, he grew up on a farm, studied architecture and worked at it, but began beekeeping at 18 and has kept at it ever since. He went to Rhodesia in 1906 and took with him 25 bee hives. There he worked at a British experiment station and established the first apiary in Rhodesia. At one time, he was the only white man living among 19,000 African natives.

Home and abroad

Returning to U. S. he undertook commercial beekeeping in California, then entered USDA in 1917. He kept 1,600 hives of bees in Haiti for 2 years. Later still he established the Pacific Coast branch of the USDA Bee Culture Laboratory at Davis, Calif. He did outstanding work on standard grades of honey, on the standardization of honey containers, and on the cost of producing honey in relation to methods of apiary management.

After his retirement in 1934, Sechrist went to Tahiti, bought a 30-acre valley, built a house with his own hands, put in 200 exotic trees and plants—many of them nectar producers—and kept 25 hives of bees, exporting queens to the U. S., Australia, and New Zealand. This life was a true Pacific isle paradise for him until World War II ended it, whereupon he returned to the U. S. with the same socks he carried to Tahiti, having never had occasion to wear them there!

More recently—and then he was over 70—he built yet another house with his own hands and settled again, this time in California. In every way an outstanding and unique individual, we are proud of him in a "retirement" during which he has carried on more hard work than most men do in the prime of business or professional life.

An awakening farm

JUST released by the Department is a two-reel, color-sound film, For Years To Come. It chronicles the changes wrought by soil conservation on one typical farm within a 12-month span. The farm belongs to Christian B. Musser, York County, Pa.—but the transformation parallels what has happened, is happening every day, on countless other farms in Georgia, Mississippi, Utah, Oregon, Nebraska, Iowa.

Musser was considered a good farmer. Today, he is an even better farmer. The new film records the fateful first year in which he swung from the old system to the new. Straight rows gave way to curves, square fields to strips gently following the contour of the land. In this brief time, mossy traditicn is swept away and the farm puts a new plan into effect. As a result, Musser's yields rise far above the community average.

The film shows pointedly that the change-over is not difficult and the usual farm jobs are not interrupted as soil conservation is applied. It lasts 22 minutes, has good music.

Ex-missionary "hexes" cattle flukes

LIVER FLUKE may sound to you like something that didn't happen. But liver flukes have long been a serious handicap to cattle raising in parts of Texas and other western areas. However, they have met their match in a former South Sea island missionary, Dr. O. Wilford Olsen, now a scientist of BAI.

Small, flat, leaf-shaped parasites which seek out the liver for attack, the flukes are difficult to reach by the usual medications. The five-syllable drug, hexachlorethane (not Fiji dialect), had been found to be effective against them and safe to use, but it was difficult to administer because of its insolubility in water.

Interpreter, translator

Through resourceful experimentation, Olsen found that another chemical, bentonite, combined well with hexachlorethane to make a smooth emulsion that was easy to give as a drench—a drench being a liquid you force down an animal's throat if it refuses to drink. All this chemical lore seemed hard to explain to practical Texas cowmen, but Olsen had previously been interpreter to the king of a South Sea island. He had also translated religious works into the native language. Degrees from three United States universities—Brigham Young, Minnesota, and Harvard—provided further scientific and literary background as did also teaching experience at the University of Hawaii.

Missionary to scientist

As a net result of this colorful training, Olsen—whose headquarters are at Angleton, Tex.—began to tell Texas stockmen how they could wage a winning fight against the formerly elusive liver flukes. He talked the stockmen's language with persuasive missionary fervor; they soon began to master the scientific patter and the practical use of the two chemicals.

When State prison officials let Olsen try out the new remedy on a part of the institution's herd, the results were so convincing that the trial proved to be a public demonstration of the value of liver fluke control. The mounting demand for hexachlorethane as a chemical weapon against the parasites led to substantial commercial production and distribution.

Brief but important

Victory gardening on "The Rock": The domestic and foreign requests for the Bibliography of Agriculture issued by the Department Library have been varied and interesting, though many have had to be refused. The range of work in agriculture and the food industries represented by those requesting the bibliography has been great. We thought the Library would never be stumped in figuring out just what anyone asking for the bibliography expected to find in it. Then the other day a request was received from the U. S. Penitentiary at Alcatraz to be put on the mailing list. What do you suppose they grow?

From our readers: Personnel Director Reid: "*USDA* continues to grow in interest and usefulness. * * * You are giving it originality and readability and making it serve as an important source of information on Department objectives, programs, and personalities. It's serving the purpose for which it was developed in a fine way under your competent editorship."

E. W. Brandes, PISAE: "The material appearing in the *USDA* is uniformly good, but I was much struck by your comments on the value of scientific publications in Volume III, No. 8. * * * The careful selection of subject matter and sparkling presentation in *USDA* deserve much praise."

Suggestion: Floyd F. Anderson, FSA State Director in South Dakota, believes it would help the overworked telephone companies if all central Department offices—such as National, State, and regional—would use numbers instead of names in making phone calls.

Where the USDA *came from:* The editor recently had the job of compiling an abridged list of Federal laws applicable to agriculture. This was done, of course, with aid and comfort from several people in Sol. Only the more important laws were listed and there proved to be over a hundred of them. It took 11 pages, single spaced, to give in briefest abstract form what these laws require us to do. USDA-WFA exists because of Acts of Congress. For proof look up those formidable tomes, Laws Applicable to the Department of Agriculture, 1935 edition, and the 1941 supplement—which last is just as large as the first. The abridged list, however, carries on through 1943.

Left-handed plow: Recently, when Secretary Wickard went to Boston for ceremonies in connection with the plowing of the Boston Commons for a Victory Garden, he was telling friends about the left-handed plows he used in his early farm days in Indiana. He repeated his story, even though it was received by a car full of Doubting Thomases, on the way from Charlottesville up the mountain to Monticello, where he went to the Thomas Jefferson bicentenary. While being derided by his friends who thought his memory had failed him, the Secretary was fully substantiated when their car passed a left-handed plow still being used on a farm in Albemarle County.

O for omnipotence! One mail brought to the Office of Information a letter plaintively requesting, "Will you please help me to find my father and give me any information of any kind of his whereabouts as I would like to find him?"; another saying "Please find my boy and write and tell me why he don't write and where he is if he is sick"; and a third starting, "Just another dog complaint—we are asked to raise a Victory Garden but we can't never raise any garden vegetables with all the dogs running around." Just shows the Department is widely trusted and supposed to know everything.

Thanks: W. R. Kuehn, Office of Dist., Minneapolis: "Thanks for the advance copy of Volume 3, No. 7, edition of *USDA*. Yes, I do read *USDA* quite carefully. I like the way it caters to the 'human side of the news.' Attractive in dress, pleasing in voice, and informative in substance, *USDA* is a most agreeable companion."

Timber: Some people have wondered how our forests stand up under stress of wartime demands. The answer is, not so well. For details see the article by Lyle F. Watts, FS Chief, in the New Republic for April 17. Broadly speaking, we are cutting and destroying almost twice as much timber as we grow each year. There is a definite limit to how long a thing like that can go on. Watts says there is ample acreage available for forest crops and the ultimate solution should lie in increasing growth rather than reducing consumption.

With good forest practices we should in time be able to grow 21.4 billion cubic feet of usable timber a year. Wartime consumption and losses run about 17 billion cubic feet and annual growth is only about 11.3 billion. Even the nonmathematical can see that such a situation is unhealthy. FS knows what to do, but getting it done is more difficult.

Personal piffle

UNDER the heading "Backward Look Department," in *USDA* for April 29, the writer mentioned C. S. Hudson, now chief of the chemistry laboratory, National Institute of Health, and his own former boss. He also told about picking up some beans in what, through a misprint, became the "specious"—really spacious—grounds of the old Department of Agriculture. He said Hudson and he tried to make sugar from the beans, but he wound up, "What we discovered memory saith not."

That was true about memory. The printed page, however, is more accurate. The day the above article appeared Hudson wrote to the editor of *USDA* asking for reprints of scientific articles he had published during his laboratory career. Specifically he wanted copies of a series of 12 articles which appeared in the journal called "Sugar" during 1923 under the general title, "The Sources of the Rare Sugars." Article IV on galactose tells about those beans.

They were Yokohama or velvet beans. Some of them were picked up in the Department grounds. A sugar was made from them. It was galactose, which also forms half of lactose or milk sugar. The beans contained about 9 percent of the relatively rare sugar. The discovery was not earth shaking and no great industry has yet sprouted from it. But it does explain something the editor had utterly forgotten. See Sugar for April 1923, if you are a glutton for details.

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USDA

FOR JUNE 26, 1944

The Library

THE LIBRARY is the oldest agency in the Department since it was started in the Agricultural Section of the Patent Office in 1839. The organic act of 1862 directed the head of the USDA to collect and disseminate all the information about agriculture that could be obtained from publications, experiments, etc., and the first Commissioner of Agriculture, Isaac Newton, noted that one of his first objectives was the establishment of a library.

The original collection, transferred from the Patent Office, thus became the nucleus of what is now one of the world's greatest sources of authentic information about agriculture and its related fields. The collection, in excess of 500,000 volumes, serves the Department and the country as a whole through a main library and a system of branches.

The Library's objectives stem from the fact that there are only three ways to get information: (1) To ask a man who knows; (2) to perform an experiment; and (3) to find it in the publications in a library (which is, in effect, asking a man who knows by consulting his written reports). Thus the Library is more than a mere collection of publications. It is an intelligence center consisting of millions of experts who, currently and through all the ages, and in all points on the globe, have written down what they know.

Organization

The organization of the Library has been geared to get the expert knowledge that is in the literature to the man who needs it, regardless of the form or language or country in which the publications have been issued or of the location of the man who needs the information they contain. The Library's acquisition program attempts to bring together in the collections the written records of all the experts in the field of agriculture who have ever existed. Its cataloging organizes them so that we can find out what experts have written on what subjects. Its reference and bibliographic services call up the experts and extract their testimony. Its circulation and photocopying services place the knowledge required in the hands of the man who needs it, wherever he may be.

Facilitating service

The major objective of reorganization of the Department library system during the last few years has been to strengthen it so that the knowledge it contains may be decentralized out onto the desk of every man who needs it. As a result of this program, circulation of publications in the field increased about 700 percent last year and reference service more than doubled.

The new Bibliography of Agriculture, which covers all the literature received in the Library each month, is now available in almost every office in the Department as well as in all experiment stations, extension agencies, and depository libraries. By spending a half hour to an hour once a month with the bibliography, any worker in the Department may determine what has been issued during the preceding month that relates to his job. He can also obtain such publications listed as he needs, either on loan or in free photoprint copies, with a minimum of delay or red tape, by requesting them from the Library in Washington or any of its branches.

Workers in the field of agriculture who are not members of the Department may likewise use these services by subscribing to the bibliography. If the publications are not available in their vicinity they may obtain microfilm or photoprint copies by paying the cost of producing them.

(The above was prepared by Librarian Ralph R. Shaw just before he was inducted into the Army June 3, regardless of any possible reasons for deferment, i. e. he was essentially a volunteer.)

Credit line: In our June 12 issue the printer inadvertently inserted the heading "Foreign Agricultural Relations," picked up by mistake from the May 13 issue. The editors were not at fault; however, at the instance of the printer, a request for a reprint was waived to conserve paper.

Day's work

THE OTHER day your editor rode circuit with an ES county agent. It was really just an average day's work for the agent but impressed us no end. We were picked up at a Minneapolis hotel at 9 a. m., the agent, Harold Pederson of Hennepin County, having already done an hour or so of work at his office. Our first call was on a farmer who resented the fact that, while his son was in the armed forces, other sons nearby remained at home and jibed him because he and his wife now had all the work to do.

He wrote the local Selective Service Board exactly what he thought about that and it asked the county agent to interview the farmer. He and his wife were cutting asparagus when we arrived, lifting the heavy baskets in the hot sun. His agitation was real. He was sincere, no crank. When we left he was somewhat mollified. Meanwhile his wife told about her son on the battleship Texas. This was a 50-acre truck farm with one farmer and his wife, each about 50, doing all the work.

Next call concerned placing a high school girl on another farm for the summer. At the third we found a farmer and his wife bunching asparagus for the retail market, using rubber bands, half of which snapped, but which cost several times what they used to, and had to be processed in hot water before an attempt could be made to use them. The wired paper tape often used to tie the bunches was scarce. Bunching is hard tedious work.

Plant doctor

The farmer wanted a diagnosis of troubles in his strawberry patch. It proved to be sawfly. The agent told him what to do, answered two or three other questions, and we hurried to a luncheon meeting of the Food Fights for Freedom Committee of the Minneapolis Defense Council. We lunched and talked simultaneously. Many programs were lagging because people imagined rationing was off for good and there would be food in plenty from now on. Means of ending this lethargy were developed.

Soon we were on our way again. The county is not large. It contains Minneapolis but also 70,000 rural people. But considerable drives were involved in each visit nevertheless. All afternoon other farmers were seen, their difficulties discussed, their crop troubles diagnosed, and prescriptions were given on the spot. Most of them greeted the agent with happy expectancy, as if they had just been waiting for him to arrive and

smooth things out. The agent was quiet, competent, helpful.

A lot of our afternoon visits concerned pasture carrying-capacity surveys. Most of the farms raised truck crops or produced dairy products for the Twin City district. They were rather small, though we came across one 55-acre, 2-man farm where the monthly cash income was $850, and there were doubtless others with operations as extensive. We wound up at an evening meeting in the basement of a village town hall where spray schedules were discussed by the agent and your editor was mildly kidded.

Superfluous bureaucrat

One farmer said he was just another superfluous bureaucrat. He felt like one, too, among these earthy producers from the soil. They had a right to kid him. It would do you good, you who too seldom see farmers, to look them over and talk to them as frequently as you can. It can make you feel you lead rather a useless existence, too. Well, we finally got back to Minneapolis after 11 p. m. and the agent went on his way to renew his acquaintance with his family.

After all he attends from 30 to 35 meetings a month, many of them in the evening. He makes from 40 to 50 farm visits, unequalled personal contacts for many purposes. But Saturday nights and all day Sundays he reserves to be with his family—and that's little enough, all things considered. One day a week he spends wholly in his office. The rest are about like the one just described, a good day's work in anybody's language.

Gardens

DON'T BE a carpool wallflower for want of a Victory Garden. You get out too and listen to the song of the hoe. An unusual opportunity exists in many places for last minute gardeners to enjoy the benefits of growing their own food this year. In many cities, there are still vacant plots in community gardens. For the most part this land has already been plowed and prepared for planting, but has not yet been taken over. With a little preparation this good soil could be put in condition for planting.

Over much of the northern half of the country, June is an ideal time to plant beans, tomatoes, corn, squash, cucumbers, salad crops, late cabbage, carrots, beets, and turnips. For the southern half of the country, many of these vegetables may be planted in July and August. The recent announcement that civilian supplies of the principal canned vegetables from this year's pack will be 20 percent less than those from last underscores the fact that the food battle is not won.

These community gardeners are polyglot, like the American melting pot they symbolize. They come from every walk of life. Men in uniform also delve. Here is a pattern for victory that should extend into the peace and beyond. Now is the time for you to become a thread in the fabric of that pattern.

Nominations

CHARLES FRANKLIN BRANNAN, recently nominated for Assistant Secretary of Agriculture, is a native of Colorado and a graduate of Denver University Law School who practiced in Denver until 1935, when he became a local regional attorney for the Resettlement Administration. Later he became Regional Attorney at Denver for Sol., then Regional Director there of FSA. He has recently been Assistant Administrator of FSA.

Ivy William Duggan, recently nominated as Governor of FCA, is a native of Georgia, and a graduate of Clemson, with a master's degree from Ohio State. He has been a Georgia county agent and a professor of vocational agriculture at Clemson and at Mississippi State. In 1944 he became Principal Agricultural Economist in AAA's cotton section. Since 1937 he has been Director of AAA's Southern Division and later Deputy and then acting Governor of FCA.

Bureaucracy

WRITING in Public Personnel Review for April 1944, former Civil Service Commissioner Leonard D. White observed that no progress could be made in the discussion of government by using derogatory terms like: "Bureaucratic termites," "hateful bureaucracy," "irresponsible bureaucracy," "bureaucracy taxeaters," and so on. He said Federal public service, established during the first session of the first Congress, in 1789, is an essential element of all government. "It is entitled to respect, not to name-calling." He went on:

> Irresponsible abuse of the civil service should no longer disgrace public discussion. It does not add to our understanding of the needs of public service to call names. "Bureaucracy" and "bureaucrats" are the current terms of abuse, and they deserve to be debunked at the outset. There are weaknesses to be strengthened and faults to be cured. Men of good will had better sit down together to consider the remedies rather than muddy the waters by thoughtless disparagement of an institution which is basically sound.

Board meeting

USDA's Editorial Advisory Board met in chairman Wilson Cowen's office on May 16. The Board approved *USDA's* content, size, and policy. *USDA* will doubtless remain terse, telegraphic, unillustrated for the duration. Increased effort will be made to have each employee see a copy. If you see one irregularly or only occasionally, let us hear from you.

All employees are urged to send their copies when through with them to former USDA employees now in the armed forces. Make this a must. An attempt may soon be made to supply copies to such retired employees as wish them, or will pay a nominal subscription rate for them—surveys to be made. There will be no straight sales circulation. The routing-schedule box is back on the masthead.

Dr. W. W. Stockberger, whose retirement was reported in *USDA* for January 8, attended the meeting and spoke kindly and well. He was weak and pale after prolonged illness. He said he wanted to try to get down to the Department once or twice a week from then on but, most regrettably, his death was reported in the press of May 28. We shall miss him indeed. See *USDA* January 8, pg. 5, for his career.

Meet the meat man

WILLIAM O. FRASER, Assistant Chief, Livestock and Meats Branch, Dist., and vice chairman of the War Meat Board, recently won a meritorious promotion for devising and putting into operation the system used by the Board for obtaining a complete picture of our national weekly meat production. He also worked out the plan used by the Board to translate the statistical allocations of the Food Requirements and Allocations Committee into current meat supplies. In the last analysis Army and lend-lease purchases, as well as civilian ration points, are determined by these techniques. The plan has been markedly successful. The armed forces have had such meat as they needed, and on time. Shipments to our allies have been regularized and gotten not only on, but ahead of, schedule.

On completion of 20 years service with the Department, Mr. Fraser left June 15 to accept a position with a Chicago packing company. Fraser entered the Department as a meat grader and market reporter in 1924. He served in Boston and Chicago and pioneered the establishment of livestock market news at Des Moines, Iowa, in 1930. From

1934 to 1937 he served with AAA and in April of that year returned to BAE's Livestock, Meats and Wool Division. When this work was transferred to AMS, Bill was assistant chief. He later became chief of the Division. In 1942, he was named assistant chief of the newly established Livestock and Meats Branch in the Agricultural Marketing Administration, that later became FDA and is now OD. He is succeeded by S. R. Newell who has been with USDA for 18 years.

Hog disease gadget

A FEW years ago a charlatan with a genius for making money and a convenient lack of integrity devised an electrical machine to diagnose all ailments. The wires were tuned in to the patient, a switch was turned, the machine started to purr and show colored lights, and soon an indicator in a dial pointed to the disease. That was a fake.

The hogs are more fortunate than humans though. For J. E. Peterman and A. G. Beagle of BAI have devised a chart which aids materially in the prompt diagnosis of certain swine diseases. These have similar symptoms in early stages and are difficult to differentiate. But certain combinations of seemingly minor symptoms become highly revealing when they occur together.

The chart carries brief descriptions of 40 symptoms with space for positive or negative notations. Some characterize swine erysipelas, some chronic erysipelas, some hog cholera, and some other swine ailments. Combinations of certain items give excellent early indications of specific diseases.

The chart has proved quite reliable when tested under practical conditions. It also saves many a hog's life as the critter might otherwise be killed to effect diagnosis post mortem. That in turn saves farmers $30 to $40 per animal.

Food facts

JUDGE MARVIN JONES, speaking at a State-wide farm rally in Orangeburg, S. C., on May 26, said:

This critical moment is *no time* to waste or *mince words*. A food supply, however great, is temporary and must be constantly replenished. Food commences to disappear the moment it is produced. *A food supply at any given time is not the result of current efforts.* It was planted, produced and conserved in previous months. *What we will have next year will depend* entirely on next year's past . . . and next year's past, we must never forget, is *this year* and the months that are just ahead. There can be no greater disservice to the nation, *no policy more dangerous, than* to permit ourselves *to dwell in a fool's paradise* created by our present large food supply.

Scientists' writing

THE American Association of Cereal Chemists had one unusual afternoon program during its recent 30th annual meeting in Minneapolis. It was held May 24, Prof. W. F. Geddes (University of Minnesota) presided, and it was a symposium on the preparation of technical reports and scientific papers. The editor of *USDA* dropped the first blockbuster at 2 p. m. He sounded off on the oft-violated fundamental principles of good scientific writing. He was followed by others who competently and adeptly discussed details concerned with tables, figures, statistics, unity, clarity, and brevity.

Now scientists, who will calmly meet adverse criticism of their research methods and results, often get raving mad when anyone says they fail to write well. So those who participated in the symposium were all set to run out of the place as soon as it was over. This proved a superfluous precaution. The papers were not only greeted with prolonged applause, but the cereal chemists present rose to demand that they be published in pamphlet form for the future guidance of scientific writers. Something of the sort will be done too.

Farm & Home

IF YOU have wondered what became of the good old Farm and Home Hour, on the air continuously from October 2, 1928, and a public service program of unsurpassed value to farmers, here's what happened: On May 19 Vice President Carlin of the Blue Network simply informed us that, as of June 19, it would be discontinued as now organized. There will be a Monday-through-Friday program under the name of "The Homesteaders," *but the USDA will be conspicuous by its absence.* The Friday Victory Gardens program will continue until July 28 or later, then it vanishes.

The Saturday program only will continue with the present format under the name "National Farm and Home Hour," with a 5- or 6-minute period available to us for *farm* news or speakers, and a similar period for homemaker information. Reason for all this: The Blue Network says its stations believe city listeners are uninterested in the old program because of too much farm emphasis. The Secretary and the War Food Administrator expressed their concern over this discontinuance in a joint wire to Edward Noble, chairman of the Blue Network's board of directors, May 27.

Originally Farm and Home was an hour program 5 days weekly. Later it was whittled down to 45, then to 30 minutes, with the USDA apportioned only 10 minutes for its message to farmers. It was an outstanding public service program, especially important these critical times for keeping farmers fully informed. Well, see you Saturday only. Listen in then whenever you can.

The busy bees

TO the average person a bee is merely an indignant little creature with the chronic disposition of a traffic cop that goes around sticking its nose into the flowers and wiping its feet all over. Of course there is honey, and to the apiarist the bee is important from that standpoint. So he devises ways and means of avoiding the bee's mean disposition and making him work for man's living.

What we tend to forget is that bees are indispensable for crop production. Without the busy little bees to effect cross-pollination our yields of many important crops and vegetables would be nil. For instance, some 50 important crops are either entirely dependent on pollinating insects to produce seed or fruit, or produce more abundantly when such insects are plentiful.

Bees and crops

For example, red clover will produce no seed without pollinating insects, and alfalfa produces such a small amount as to be insignificant without the aid of bees. Other important crops include most of the deciduous fruits, melons and cucumbers, most of the legumes, seeds of such truck and garden crops as onions and cabbage, cauliflower, brussel sprouts, turnips, carrots, etc. Already our yields of alfalfa and red clover seed have dropped alarmingly because the bees and other insects don't get around as often as they used to.

To tell the truth there are fewer of them. Modern insecticides, now used in such profusion, have been tremendously successful. They have not only controlled destructive insects but have killed off many of the beneficent ones upon which crop growers depended for pollination, without thinking too much about the matter.

More bees needed

In the past we have tended to regard entomologists primarily as destroyers of marauding insects. But they also work to protect useful insects. Insects that aid man to grow crops of economic value must be protected. That includes bees.

Farmers everywhere are now being encouraged to keep bees for their value as

pollinizers, with honey as a secondary incentive payment for doing so. That's the main bee story of the day and it is authoritative and important.

It's the berries!

THE Old Timer nodded toward a man passing down the hall. "You know who that is?"

"The man who came in for his war bond?" said Mary Louise. "Yes, that's Doctor Haller—Mark H. Haller, associate pomologist. Mark has just provided himself with a sort of annuity."

"Oh, I think insurance annuities are wonderful," said Mary Louise. "I love to read about retiring to California or Florida when one's 60—"

"This is a bit different," confessed the Old Timer. "I'm thinking of a research annuity. Strawberries are doing it for Mark."

"It must be the berries, then?" suggested Mary Louise, giggling.

"It is. Strawberries are grown almost everywhere, but the fields do not last long, usually not more than 3 years. So a lot of plants are needed to keep production going. These are usually obtained from nurseries. The digging, trimming, counting, cleaning, packing, and shipping involve a lot of hand labor, which is mighty scarce just now. To get satisfactory growth of strawberry plants the practice has been to dig them in the spring before active growth starts. It—"

"Gee! You know everything, don't you?" said Mary Louise in pretended admiration.

Curing a headache

"I'm quoting from this circular on my desk," admitted the Old Timer. "Well, in a given locality there's only a relatively short time after digging can begin that the plants remain sufficiently dormant, and consequently a peak demand for labor occurs. On the other hand, the demand for plants may extend over a considerable period, as southern growers may order plants from more northern nurseries before the soil there can be worked, and northern growers may order plants from southern nurseries after the plants have begun active growth."

"I think I'm getting a headache," said Mary Louise. "But go on."

"Mark Haller thought over this problem. He decided that by digging plants in the late fall or winter and holding them in storage it would be possible to have them available to fill very early orders, to keep up with orders better during the peak demand, and to have relatively dormant plants to fill late orders. The use of stored plants, too, would relieve the demand for labor during the peak period in the spring and it would remove the plants from the hazards of winter injury in the field. The biggest shipper of strawberry plants in the United States has tried out the plan. He stored a million strawberry plants during the winter—and sold them all. This wouldn't have been possible under the old method, of course."

Just reward

"Fine! But where does the annuity come in?"

"In this paper," said the Old Timer, impressively, holding up Circular 669, Winter Storage of Strawberry Plants, *"Mark Haller points the way to an annual saving by strawberry growers and handlers equivalent to the total of his modest salary throughout, say, the 30 years an employee ordinarily puts in before retiring from the Federal service. That is, if he stays on until he's 70, he has already, by this piece of research, returned to the taxpayers who pay his salary more than he ever gets back.* Yep, that's the way research workers provide their own annuities!"—J. A. FERRALL, PISAE.

USDA science in Chinese

A 4-PAGE leaflet printed in Chinese characters on rice paper is a new publication medium for USDA livestock research. The leaflet was printed in China to acquaint sheep owners of that country with practical aspects of recent Departmental sheep breeding investigations. The author is Ralph W. Phillips, a BAI geneticist, who has now returned to his duties at the Beltsville Research Center after spending 9 months in China as consultant on animal breeding to the Chinese Government.

As a scientist on "lend-lease" from the USDA, he participated in the Department of State's cultural relation program. On his return trip, Dr. Phillips spent 2 months in India at the invitation of its government. In both countries he prepared reports embodying suggestions to officials on livestock matters, especially animal breeding.

Brief but important

WFA organization: Supplement 8 to Administrator's Memorandum 27, May 24, assigned to the OL all WFA functions relating to labor, manpower, and wage-stabilization programs, except as concerned with intrastate labor, Women's Land Army, and Victory Farm Volunteers. ES was assigned responsibility for the last-named three functions. Camps, equipment, and property determined by OL to be wholly and continually available for intrastate-labor, land-army and farm-volunteer use were transferred to ES for loan to State Extension Services.

The fifth War Loan should get 40 percent of a month's pay. This means YOU!

Handicraft courses: Full information regarding the course, June 14 to August 29, at Penland School of Handicrafts, Penland, N. C., may be obtained from that school; regarding the New York City National Weavers' Conference course, August 22 through August 31, write Creative Crafts School, Guernsey, Pa.

Kotok heads FS research: Edward I. Kotok, since 1941 an Assistant Chief of FS, has succeeded Clarence L. Forsling as head of research. Mr. Kotok was born in Russia, reared in New York City, and since 1910 has been with FS. Mr. Forsling becomes Director of Grazing for the Department of the Interior, following approval by the Senate on May 10. Richard E. McArdle, since 1938 Director of the Appalachian Forest Experiment Station, in late summer will become head of the FS Branch of State and Private Forestry.

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USDA

FOR JULY 10, 1944

Plant Industry—in peace and war

IN HIS 1926 annual report as Chief of BPI, Dr. William A. Taylor reviewed some of the outstanding achievements of the Bureau, and said:

> It is recognized that no accurate monetary expression can be made of the economic gains more or less directly resulting from the research activities of the Bureau. For comparative purposes, however, expression of the economic gains has been attempted on the basis of average prices prevailing during the time when the work of the Bureau brought about the improvements or other changes. On this basis these items would amount to considerably more than 200 million dollars annually.

A bit of history

"Considerably more than 200 million dollars annually!" Naturally, the question follows: How long has this thing been going on, anyway?

Emerson said, "The first farmer was the first man." That will give you an idea as to when plant-industry work actually started. It was not until 1900, however, that we began to write Plant Industry with capital letters. In October of that year Secretary of Agriculture James Wilson grouped the Divisions of Vegetable Physiology and Pathology, Grass and Forage Plant Investigations, Pomology, and Experimental Gardens and Grounds into an Office of Plant Industry. The Agricultural Appropriation Act of July 1, 1901, added the Division of Botany and raised the Office to Bureau status. Other lines of investigations have been added from time to time, and in 1943 the name of the agency was changed to Bureau of Plant Industry, Soils, and Agricultural Engineering.

Broadly speaking, the functions of the Bureau are to acquire knowledge concerning the fundamental principles governing crop production and utilization, and to apply this knowledge to agriculture in the interest of the general welfare.

Pre-war activities

The Bureau's role in plant introduction is often the one first mentioned, since aside from corn, tobacco, pumpkin, bean, and a few minor crops, all our food plants have been introduced. Our early settlers brought with them the crops of northern Europe, many of which were poorly adapted to American conditions. Gradually, by other introductions, breeding, and selection, our agriculture has become distinctive.

The durum wheats, sorghums and other grains, Acala cotton, the navel orange, soybeans, Turkestan alfalfa, Korean lespedeza, and the sugarcanes—these are but a few of the important crop plants brought from other lands.

The plant-breeding program, in close cooperation with the agricultural experiment stations and similar agencies, has given us hybrid corn, better wheats, improved disease-tolerant sugarcane, improved cotton, Marglobe tomato, Katahdin potato, Blakemore strawberry, and many other valuable new varieties. Success in breeding disease-resistant varieties has been outstanding.

For example, disease-resistant varieties of lettuce and cantaloups, developed in cooperation with the California Agricultural Experiment Station, returned to growers $17 million a year over and above what they could have expected from growing the standard, susceptible sorts. *This sum is almost exactly the total cost of fruit and vegetable crops investigations conducted by the Department during the first 75 years of its existence!*

In his 1943 report as Chief of PISAE, Dr. Robert M. Salter said:

> Added to these contributions of plant breeders are those of soil scientists who are making possible an increasingly efficient and discriminating use of the land, fertilizer specialists who are pointing the way to more economical and effective ways to manufacture and use fertilizer, and agricultural engineers who are developing improved and labor-saving methods, machines, and equipment for carrying on the operations of agriculture.

Handling, transportation, and storage methods worked out and introduced by the Bureau save growers and handlers millions of dollars each year, and result in more and better products for the consumer.

In the Bureau's chain of achievements are many golden links of outstanding accomplishments in fundamental research, from the early proof that bacteria could produce plant diseases, down the years to the observations on the ratio of leaf area to fruit production, and the epoch-making discoveries of the effect of length of day on plant growth and the value of plant growth substances.

The war effort

Hybrid corn added many millions of bushels of corn to the 1943 crop. In 1943, with 52 percent of all corn acreage hybrid, 6,570,000 acres of less land was used than was used in the bumper year of 1920 to grow about the same sized corn crop. The new varieties of potatoes which made up more than 28 percent of the Nation's certified seed potatoes in 1942 accounted in part for great increases in potato production.

Needed sugar is coming from Louisiana where a few years ago mosaic disease threatened the destruction of the industry. It was saved by planting the "sugar-bowl" with the improved, disease-tolerant sugarcanes developed by the Bureau. Wood disease studies have helped in the more effective use of woods in aircraft, boat, and war-housing production.

Rubber production in the Western Hemisphere has been hastened and made more effective. A critical fiber situation has been met by growing abacá in Panama, Costa Rica, Guatemala, and Honduras, a cooperative undertaking that has already brought millions of pounds of fiber to this country and that promises a million pounds a month when adequate fiber-cleaning equipment is installed on all the plantations.

It begins to appear that the Bureau's most popular contribution to the food front, "the battle line without which all others must fail," may turn out to be its ability to meet the need for garden information. More than 3 million copies of its MP 483, Victory Gardens, were distributed in 1943, and its current offering, MP 538, Growing Vegetables in Town and City, is rapidly becoming a popular handbook encyclopedia on how to succeed in the garden. Through publications and by means of the press and radio, the Bureau's accumulated information on growing vegetables at home has reached victory gardeners so effectively as to aid greatly in producing the most amazing home garden crops ever known. This is probably the most notable mass practical application of plant science in world history!

We give you, then PISAE—the Bureau of prolific yesterdays, fruitful todays, and productive tomorrows!—JOHN A. FERRALL, PISAE.

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WFA food holdings

FEW Americans, especially if they go by what they see in the papers, have much idea about the complexity of WFA's problems in dealing with food. To narrow the thing down severely, consider only WFA's storage program. Here is what it has to do:

It must see that cold storage is used only for products that require it; speed up processing to reduce the time of processed products in storage; prevent reservations of empty space for future needs; restrict the storage period for all commodities to 10 months; force removal from storage of excess stocks; conduct a program to convert space from mere "cooler" to "freezer" levels; secure semimonthly reports from warehousemen on available space; inform commodity handlers where to get space.

Work with warehousemen for the efficient use of space; encourage off-season storage of general commodities in private space built for seasonal storage of specific commodities; facilitate expansion of facilities in areas of greatest need; maintain regular contact with the industry through the Refrigerated Warehousing Industry Advisory Committee; exchange information among Government agencies through the Inter-Agency Cold Storage Committee; collect and release complete, current information at all times.

Is that a job or isn't it? Given the dynamic conditions under which we live when at war, is it any wonder that slip-ups occur now and then?

Record quantities of many products were piled in cooler rooms during the spring and summer of 1943. Then adjustments had to be made as serious shortages of cold-storage space developed, especially after stupendous livestock slaughter began. For public freezer space was already 90 percent filled, holding 45 percent more meat, 37 percent more frozen eggs, and 35 percent more fruits and vegetables than the year before.

Put and take

So freezer holdings had to be examined. The space shortage was the result of private and Government holdings—private stocks being the largest. So frozen eggs were sped from storage to dryers, our Allies were urged to take more of certain products at once, fruit preservers began to process frozen fruits ahead of other holdings, point values were lowered to increase consumption of frozen fruits and vegetables and pork. Frozen meat for export was rushed directly from packer to shipside.

What about stocks? Take one commodity—butter. Winter before last the Government had to buy butter during the season of low production. This forced civilian consumption down. So in 1943 Government buying took place at the peak production periods. Hence civilian stocks during that winter were not cut into. Government stocks of October 1 had to be sufficient for 6 months, because the military forces and WFA did not intend to buy butter until the next April, when production started to climb.

WFA watches its inventories of all commodities constantly to prevent warehouse stocks from going too high. Stocks are turned. Excesses because of changes in war requirements are thrown back into civilian channels. This is pure inventory reduction, not a sale of spoiled food. For spoilage is very low. Since March 1941, WFA has handled 5 billion dollars' worth of farm and food products. Some losses are inevitable—but to date *such nonrecoverable losses amount to one-fiftieth of 1 percent of the goods bought, i. e., $1 per $5,000.* Is that bad? It is mighty doggone good.

Cotton wizard

THE scientific career of Dr. Thomas H. Kearney, PISAE plant scientist who retired June 30, began before there was a BPI, almost 50 years ago. Kearney entered the Department as a botanist and became notable for his work on cotton, but his MP 423, Flowering Plants and Ferns of Arizona, was within the scope of his activities.

Early this century Kearney visited North Africa to study date culture and the production of olives without irrigation. Subsequently he worked largely on dry-land crops suited to the American Southwest. He built up invaluable information on the alkali tolerance of plants which marked the beginning of his interest in and work on cotton.

New industry founded

Between 1900 and 1913, Kearney was responsible, with others, for the introduction into this country of long-staple Egyptian cotton, hitherto imported. By the end of 1940 this industry had proved to be worth $120,000,000 to growers. Today such cotton is in great demand for airplane fabrics, heavy-cord truck tires, barrage balloon cloth, machine-gun belts, parachute webbing, and other uses where high tensile strength is essential.

All told, Kearney developed four famous cotton varieties each of which proved better than the last. The recent highly productive hybrid S x P was one. He brought out many new genetic facts. *His research formed the actual basis for our American-Egyptian cotton industry. In 1943, 145,000 acres of such cotton were grown here.* The worth of Kearney to this Nation in monetary terms is simply inestimable.

Another busy laboratory

THE AIC Eastern Regional Research Laboratory, located in a pleasant residential suburb of Philadelphia, hums with activity. A one-day visit left the editor's head in a whirl. To find a single laboratory well along in the investigation and development of an extraordinary new finish for wood, a drug that gives promise of being effective in treating high blood pressure, rubber from Russian dandelion roots, apple sirup for table use and for keeping cigarettes moist, a high-protein feed from vegetable wastes, fabrics and plastics from milk casein—these alone are enough to prove exciting. Yet there was more.

Director P. A. Wells and his assistant, R. E. Lothrop, routed the editor through on a schedule that permitted about one hour per Division chief. That rapid bird's-eye view corresponds somewhat to the compact, space-conserving report that must be given here.

Dr. E. Yanovsky and his coworkers in Lee T. Smith's Carbohydrate Division have developed the new resistant coating for wood. They first prepare a complex gum from starch. This dissolves in all ordinary organic solvents. When wood is coated with it and heated a short while at a relatively low temperature, the finish becomes resistant to all ordinary agents that damage wood—heat, water, acid, alkali, and so on. A liquid somewhat similar to the gum can be prepared from certain sugars and used directly.

This process, like that developed in this same Division for producing lactic acid derivatives from the lactose in whey, is economical. Methyl acrylate, a derivative of lactic acid, has a multitude of uses. It is a base substance for conversion into plastics, rubber extenders, synthetic rubbers, lacquers, adhesives, and synthetic resins. One lacquer is a most effective coating for cement, something long needed.

Apple sirup

Dr. J. J. Willaman's Biochemical Division has not only worked on improved methods of producing nicotine from tobacco and of making insecticides from the nicotine, but it also developed the apple sirup which certain cigarette companies used successfully to replace glycerine in mid-1942. Culls, cores, and apple parings can be used.

In the fall of 1942, when a scarcity of protein feeds loomed, this Division surveyed vegetable wastes of all kinds—those in the field and clear down the line. It was found that discarded leaves were in many cases not only rich in carotene and riboflavin, but also contained from

22 to 33 percent of high-quality protein on a dry basis. This new feed is undergoing actual feeding tests at the Delaware Agricultural Experiment Station. An important new source of high-grade protein appears here, derived from such materials as the leaves of broccoli, beets, carrots, and rutabagas.

W. C. Ault and staff of the Oils and Fats Division have as their principal objective a $30-million-a-year proposition, that of developing an economical method of processing lard technically to improve its appearance, physical condition, and keeping quality. This and other investigations on drying oils led to necessary spadework in the field of pure research. That, like the fundamental work on proteins undertaken by R. W. Jackson and staff in the Protein Division, absolutely must be done—and it takes time and patience—before the solution of practical problems can be undertaken with any hope of success.

Wool from milk

Thus Jackson's people have developed improved milk-casein fibers, wool-like fabrics, and brush bristles. They have also worked on casein plastics. These are excellent for making small objects like buttons, for they take color well. However, they warp badly and a more complete understanding of the protein molecule will be necessary to prevent this. Finding out what shape molecules are and how they are chained together is difficult work in theoretical chemistry, but it underlay the production of nylon and many valuable commercial products and it must be undertaken here also.

James F. Couch, former BAI man, who solved the milk sickness problem by his discovery of tremetol, now works here with M. J. Copley, in charge of the Analytical and Physical Chemistry Division. He has recently extracted from flue-cured tobacco the glucoside, rutin, which may find extensive pharmaceutical use. Medical research has found that, if used regularly, it prevents the capillary fragility that sometimes leads to apoplexy in sufferers from high blood pressure. Rutin also makes the orthodox medication of hypertensives with sodium thiocyanate far less dangerous than usual.

Copley's Division, like the Division of Chemical Engineering and Development under R. K. Eskew, carries on important research. The former is not a mere control laboratory. The latter is not a mere pilot plant where the scale of laboratory processes can be stepped up; it deals also with the development, design, and construction of equipment simulating that for factory use in making the products in question.

Rubber and leather

At the moment Eskew's Division was making rubber from Russian dandelions by a continuous pilot-plant method of its own, differing from and better than the Russian methods. It involves washing, pebble milling, screening, and flotation. Eventually the dandelions may yield 300–400 pounds of excellent rubber per acre, plus 45 gallons of alcohol that could be distilled from the fermented leach liquors which contain inulin and other fermentable carbohydrates.

The problems to which J. S. Rogers and staff of the Hides, Tanning Materials, and Leather Division address themselves are hide-improvement programs and—much more important—the replacement of our vanishing stores of chestnut-wood tannin. (See *USDA*, April 29.) Other woods have been suggested but better still would be some quick-growing plant that could be produced as an annual crop. Roots of canaigre, a plant of the dock family, domestic sumac, and tara, a Peruvian-Chilean plant that can be grown in California, all offer excellent possibilities.

This report merely scratches the surface, but it's all the space we have.

Farm Safety Week

THE other day the press told about two brothers, dairy farmers, found lifeless in a pasture lying about 100 feet apart, gored to death by a bull. The story is far from unique. Farming is adjudged an extra hazardous occupation by thoughtful physicians. There are almost as many ways for a farmer to get injured as for a man in the armed forces. Casualty totals are astonishing.

In 1943 farm accidents killed 20,000 farm people, injured 2 million, and cost a cool billion. Though but 16 percent of the Nation's workers were in agriculture, this industry had 24 percent of all fatal accidents, the largest number for six major industries. That means a loss of 15 bushels of wheat or 202 pounds of beef for each and every one of us, or of 4½ days' food supply, if you figure it another way.

Accidents don't happen, however; they are caused. They can be prevented. Case histories prove that most farm accidents are preventable. National Farm Safety Week, sponsored by the National Safety Council, has been endorsed by Secretary Wickward and War Food Administrator Jones. The week is July 23–29. But the program should last forever. Procure farm safety publications from Inf. Spread the gospel.

Office of Transportation

THE OT, a WFA staff unit, is responsible for coordinating the many transportation activities of WFA and preventing waste of freight-car-days or truck-miles. It must also obtain ocean shipping for the important food programs and look after grain shipments by boat on the Great Lakes.

In 1942, 114 million bushels of grain moved over the Great Lakes in vessels of U. S. registry; in 1943, 184 million; and the 1944 program calls for 285 million bushels. To handle that much grain with limited manpower requires careful planning of shipping, elevator space, and railroad-car use in cooperation with ODT, CCC, and the committees representing the grain and milling industries.

OT also functions as liaison between WFA agencies and other Federal departments governing transportation, and with the transportation lines. To it come their complaints if cars of WFA freight are delayed in unloading, and through it are developed the improvements in WFA and food-industry use of transportation so necessary to conserve this vital war resource.

A Director of Transportation was appointed May 26, 1943, and OT came into existence then. On the following December 1, this Office became a staff agency of WFA, thus ceasing to be a line or program agency. The Director of Transportation is Elwood Chase.

Confused onions

SCIENTISTS in PISAE have shown the way to increase onion production from 20 to 50 percent by developing a sort of confused male-sterile onion that is, for all practical breeding purposes, entirely female. It can bear seed but cannot supply pollen. Crossed in the field with normal onions naturally supplying the pollen, the seed have highly prized hybrid vigor. Thus onion breeders have learned to control pollination in a plant bearing male and female parts close together in the same flower.

The results were written up by Henry A. Jones and Alfred E. Clarke in a paper rather formidably entitled "Inheritance of Male Sterility in the Onion and Production of Hybrid Seed." These five pages of technical matter appeared in the Proceedings of the American Society for Horticultural Science. It was judged the Society's best 1943 report on research in vegetable crops, and brought its authors the Vaughan Research Award of $500. It is a temptation to say that Jones and Clarke know their onions, but we will *not* yield to it.

As you sow

THERE was a time when the solitary concern of the nascent USDA was seed—to bring it from everywhere, to plant it everywhere. "To make two blades of grass grow where one grew before"—that was the task. It was achieved. The current problem is the detection of bum seed.

Recently, a seed company entered a plea of guilty to violation of the Federal Seed Act of August 9, 1939; was found guilty, and fined. This company had shipped 10 bags of Sudan grass seed from Missouri to Arkansas, stating on the labels that noxious weed seed was "none in excess" when it *was*. Furthermore, 600 other bags were shipped into South Dakota falsely labeled as having a germination of 80 percent in April 1943, but only 54 percent germinated a month later.

Another seed dealer was fined heavily for disseminating through the mails of three States a false advertisement concerning Dwarf Essex rape seed. It was called "Dwarf Essex type," but farmers who planted it discovered that it went to seed as does wild mustard and provided practically no summer pasture. Because the war had cut off our usual Holland and Japan sources, the seed had been imported from Argentina. Tests made at the time of entry showed the seed to be annual and not Dwarf Essex rape.

Figs from thistles?

The Federal Seed Act of 1939 is one of 25 regulatory laws enforced by Dist. This is quite a job and takes many man-hours. But it is essential work, for there is as crying a need for pure seed as there is for pure food and drugs. Inert seed stippled with noxious weeds isn't any fun either for the big farmer, or the man around the corner who has just a fragment of land where he can dig for victory.

The act provides that agricultural seed shipped in interstate commerce for seeding purposes shall be labeled with information that enables the buyer to determine the quality. Vegetable seeds shipped in interstate commerce are required to be above a certain standard of germination or to be labeled with the words "below standard." Field seeds shipped in interstate commerce are also required to comply with noxious-weed seed provisions of the law of the State into which the seed is shipped.

For instance, if quackgrass or bindweed or Canada thistle or wild onion bulblets are included in seed shipments to the District of Columbia, the name and number per ounce of each kind of such noxious-weed seeds present shall be shown on the label.

Infractions are spotted chiefly by State employees and reported by them to one of five Federal-State Seed Laboratories. Memoranda of understanding exist with 46 States providing for inspection by State employees of seed shipped into these States. In the course of a year, about 500 alleged violations of the Federal Seed Act are investigated.

Legal background

The act also prohibits the importation of agricultural or vegetable seed that does not meet certain standards of quality. During the current year over 57 million pounds of agricultural seed and about 2 million pounds of vegetable seed have been tested and admitted into the commerce of the United States from Canada, South America, Australia, and New Zealand.

The first seed act, effective August 1912, was primarily for imported seed. Amended in 1916 and again in 1926, its scope was broadened to include fraudulent misrepresentation of seed shipped in interstate commerce. It was firmly stepped up to a compliance tempo in 1939. The old act just couldn't stand up in court. The current act is doing very nicely.

Better management

NOT long since the President asked all Federal agencies to take stock of their management methods and to ensure the most efficient utilization of manpower. The Budget Bureau and the Civil Service Commission thereupon issued questionnaires designed for self-appraisal of bureau accomplishments and proprograms. USDA is meeting this challenge.

Secretary Wickard, War Food Administrator Jones, and their common right hand, Grover Hill, have placed marked emphasis upon this program of improved management. Directors Reid of Pers. and Jump of Finance were designated to provide the leadership in facilitating development of bureau programs. They have already held meetings with each agency.

Not that the Department has ever lagged in this matter. Indeed, it has a long history and a well-developed tradition for developing efficient administrative methods and using the time and efforts of its employees effectively. But war conditions make further improvement urgent. The Department has no blue-printed plan to hand down to the bureaus from on high, but it knows the bureaus will rise to the occasion.

Saves manpower

Nor have the bureaus been neglectful or procrastinating. You have already seen in *USDA* for June 12 how FS and Pers., with the cooperation of PISAE, AIC, and EPQ acted to render the California guayule project more efficient and less costly. They did this by the institution of good management practices. Between March 1942 and March 1944, SCS reduced the number of its Washington employees from 660 to fewer than 300, abolished 77 area offices and, as a result, diverted about a million dollars from administrative overhead to field work. That is solid accomplishment.

Dist. has reduced the over-all time involved in payrolling in the ratio of 5:1, thus freeing one-third of its payroll clerks for other work. Assistants to Judge Jones have cut the over-all time required for answering letters addressed to him by 50 percent, and possibly nothing does more to foster good public relations than prompt replies to letters.

These are mere examples, just a handful. You will find still more of them in *USDA's* lead article, Administrators Hit Pay Dirt, for January 22, and any staff or line agency could give you others. The bureaus are to send to the Secretary and the War Food Administrator management problems they cannot solve by themselves. Sometimes changes in policy, regulations, or laws may be required but, if so, these also will be sought.

Each agency has appointed a key management person to assume leadership in its own management-improvement program. These persons will doubtless later be formed into an over-all management-improvement council. Over-all Department administrative problems will be analyzed and recommendations made to the Secretary and the War Food Administrator.

The Guide

The Guide to Better Management, compiled by B & F and Pers., will aid employees in analyzing their own jobs and bettering their own work. This is a sort of management-improvement handbook. It consists mainly of illustrations assembled by the bureaus themselves. Some relate to the work of procedure or management analysts, but the bulk of the cases simply show what every Tom, Dick, and Mary of us can do to streamline our own operations. We should each appoint ourselves a committee of one to save materials, space, money, energy, and labor.

Illustrations in the Guide are also a mere random sample of bureau accomplishments. But they do give a cross section of types of improvements de-

vised and of results already achieved. Bureaus should continue to send in other illustrations of improvements. The Guide also contains a brief list of questions to aid employees in appraising their own jobs. Copies can be obtained through regular bureau channels. *This is no "drumbeating" campaign. It means business.*

Necessary bureaucracy

ATTACHED to General Departmental Circular No. 40 is a talk given by Representative Robert Ramspeck, chairman of the House Committee on Civil Service. The talk deals with the responsibilities of public officials to the people. Representative Ramspeck describes the growth of the Federal Government, discusses the meaning of bureaucracy, and concludes:

Therefore, in this the year 1944, it is correct to say that we are governed, in the Federal field, by bureaus. Thus in the proper sense, we have a Federal bureaucracy—but I do not agree that to abolish this type of government would in any way contribute to the welfare of the people. It would be necessary for us to replace these agencies—yes, these very bureaus—with other agencies having the same function. The change would be in name only.

The granting of necessary authority to public officials, Representative Ramspeck feels, carries with it great responsibilities. He sums up the duties of the Civil Service as follows:

A code for bureaucracy

It should deal courteously with the people, show consideration to every citizen; have respect for the elected representatives of the people.

It should always remember that it is the servant of the public. It should never strive to become the master of the people.

It should always strive to ascertain the intent of the law, administer it wisely and humanely. It should never try to stretch the coverage of an act, but when in doubt, ask for legislative action to clarify such intent.

It should select with care its personnel, always remembering that the positions belong to the public, that those selected should be the ones most likely to please the public and those qualified best in all respects to fill the position to the satisfaction of the people.

Remembering that taxes are always burdensome, it should practice economy in spending its appropriations. It should not retain on its rolls a single unnecessary employee.

Those in the career service should give the utmost loyalty to the administration in power, regardless of personal opinions or political affiliations—only in this way will it be possible to maintain the career system. • • •

Above all, the bureaucracy should remember that it is the trustee only of a sacred trust, that trust being the sovereign power of a great liberty-loving people. As trustees they temporarily exercise this power—not for themselves nor for any special group, but only in the interest of the general welfare of all of the people.

It is easy to detect here the rapid evolution of a code which will do much for Federal Government employee status in the long run.

Potato variety de luxe!

THE BLACKBERRY takes first place among horticultural paradoxes, for the blackberry is red when it is green. But the Irish potato is something of a paradox, too, for it is neither Irish nor a potato. It is a member of the nightshade family of plants and suffered for a long time from the poisonous reputation of that family.

It was domesticated by the Indians of South America, however, long before the arrival of Columbus. It acquired the name Irish from the fact that the Irish people were pioneers in its most effective use.

The Irish potato has been a vitally important food crop with us, too, for a good many years, so it is rather surprising to find that up to the establishment of the National Potato Breeding Program some 15 years ago, work in developing disease-resistant strains was confined almost entirely to Maine, Minnesota, and New York.

Now, however, most of the States are cooperating in the work, and 10 of the new disease-resistant potatoes distributed under the program made up more than 28 percent of the Nation's certified potato seed in 1942. They accounted in part for a great increase in average yield—13.4 bushels an acre more in 1942 than the average over the 10-year period 1930–39.

Katahdin

This brings us around to the Katahdin, the potato variety de luxe! It was the first of the Department's potato hybrids to be given wide distribution. The Katahdin was named for the highest and most prominent mountain in Maine—and is proving to be an even bigger achievement. It is called the most remarkable potato variety in the world and with considerable justification.

For, in addition to its high quality and pronounced disease resistance, it is surprisingly adaptable. It has become the outstanding commercial late variety in the United States, is popular in South America where it has outdistanced all other sorts in some sections, and is practically revolutionizing potato growing in western Australia.

Some years ago the secretary of one of the largest vegetable growers' associations in the country prophesied that the Katahdin would ultimately pay the Nation 1,000 times over the total cost of all potato improvement work up to the time of its introduction. That prophecy, once deemed highly extravagant, is proving rather conservative.—JOHN A. FERRALL, PISAE.

Latest sheep models

THE automobile industry has accustomed us to new models. Now BAI scientists have the idea. They apply it to sheep. It had long been believed that a wrinkled skin and an abundance of wool on the face and legs tended to make sheep have heavier and more valuable fleeces. This was proved untrue. In fact, the sheep got wool over their eyes so badly they couldn't even see to eat properly. On the western ranges they often got lost from the flock or died from lowered resistance due to malnourishment. Wrinkled skins didn't help a bit either—made the sheep harder to shear, in fact.

Upshot was two new range breeds were tailor-made by BAI sheep breeders. The new sheep excel in production of wool, lamb, and mutton. Their weight gain is rapid. They don't grow wool over their eyes nor does it straggle down their legs to become soiled. The ewes wean more lambs than did those with covered faces. Now the scientists are at work on a smaller sheep, ideal for New England farm conditions and combining good meat and good wool qualities.

"Elmer"

BACK OF one of our better known Washington breweries is located one of the most important units of Inf. It is growing in importance as the Department goes along in high gear in its war program, for here are stored the materials used in the Department's educational programs.

The aggregate number of copies stored and distributed from this point runs into the millions. There are days when as many as 100,000 publications are distributed. This achievement is truly remarkable when it is considered that only four employees are assigned to this work, including the foreman in charge. Since July 1, 1943, 16,600,000 items of various kinds have been received and distributed.

Speed; service—Elmer!

As an example of the speed and efficiency with which work is conducted: An Ext. specialist wired Washington that he needed 50,000 A.W.I.–41, Wartime Canning of Fruits and Vegetables. That order was filed with the foreman of the warehouse shortly before noon on the day received. At 4 p. m. the same day the publications had been placed on a post-office truck. Such action spells *service.*

And who presides over this hotbed of real industry? Don't guess. Let us tell

you. It is none other than "Elmer"—Elmer Thompson, the efficient and capable warehouse foreman. Elmer is a native of the historical city of Alexandria. Therefore, he comes honestly by his courteous and affable manner in dealing with fellow employees and the public.

A call on Elmer has often been the last resort of a specialist, writer, lawyer, or just an ordinary CAFer, stumped in locating some badly needed publication. It is always reassuring and pleasant to hear his resonant voice in response to the inquiry: "Yes, sir, I remember that one very well. Yes, sir, I think I can find a copy. Yes, sir, I'll call you right back." And you can bet all your marbles that Elmer calls back. For the "S" in his surname stands for service.—FRANCIS J. P. CLEARY, Inf.

Getting ahead

THE late Dr. W. W. Stockberger's personnel record is a remarkable exhibit. It demonstrates how it is possible for a man in the Government service to progress rapidly, earning promotion after promotion, even while making a change in occupation so drastic as that from botanist and histologist to distinguished personnel officer. Early in his career Dr. Stockberger displayed executive and administrative ability over and above that required for competence in his scientific pursuits. He continued onward and upward without a backward step.

Many workers want to get ahead but do not seem to know how. If you analyze them you will find that they leave undone those things they ought to have done and they do those things they ought not to have done. Many of them spend too much time speculating on why others progress, and attributing that progress to personal preferment, and too little in training themselves to merit promotions. It looks to a long-time observer as if the following rules must be kept by those who wish to get advanced:

Job rules

Invariably place the job first while on the job.
Do a little more than the job calls for.
Ask for more work rather than for increased pay.
Train yourself to expand the scope of your job activities.
Avoid displays of temperament and angry outbursts like the plagues they are.
Do not hesitate to assume new responsibilities.
Proceed to do the neglected things that should be done.
Avoid jurisdictional disputes with other workers.
Welcome departures from your jobsheet which enable you to render better service.
Cultivate accuracy, promptness, punctuality, initiative, memory, industry, conscientiousness, and dependability.
Organize your work well and never let your desk pile up.
Make such decisions as have to be made, without delay, remembering that a quick wrong decision can be revoked and a right one substituted.
Do the things that workers who have succeeded did to get ahead.

Tired civil servants?

SINCE most people are tired and want a holiday, I learnt with sorrow and sympathy that thousands of Civil Servants would be working as usual on Good Friday. But my sympathy turned sour when I talked to a friend in Whitehall, who explained that nearly everyone in his department could easily have got through the work by Thursday afternoon and that Friday would be a very slack day with double pay. Very long hours in the Civil Service, as elsewhere, have the effect of making everyone waste time until the date line looks near, when there is a violent scramble to get finished.

Perhaps because of the necessary rush in 1940, perhaps for fear that someone will say the Civil Service is slack, perhaps because people like getting double money—whatever the reason, work had to be done on public holidays. I do not know whether an ingeniously phrased parliamentary question could discover how many hundreds of thousands of pounds are wasted in this way. I know that no parliamentary question, however ingenious, could discover the real wastage which accumulates through lack of holidays, because people are stale, tired, out of temper, and consequently inefficient.

Quoted from A London Diary in New Statesman and Nation, April 15, 1944—so it is the British Civil Service that is under discussion!

Do your hens need glasses?

"I UNDERSTAND your Department has available a pamphlet on the advantages of rose-colored spectacles for White Leghorn chickens. The purpose of this, I believe, is to prevent the chickens from pecking each other to death at the sight of blood." This letter came recently to the USDA Communications and Records Section.

Now, science is wonderful, but that does not mean that flocks of chickens out at Beltsville are viewing the world in bewilderment through ill-fitted bifocals—even rose-colored ones. BAI poultry experts, however, did figure out a way to prevent cannibalism, the term poultrymen apply to the habit sometimes acquired by chickens of pecking at each other.

Cannibalism—and also feather picking—can usually be stopped easily and quickly by increasing the amount of salt in the poultry feed for 2 or 3 days. Details of this treatment are in FB 1652, Diseases and Parasites of Poultry.

As an anticlimax it might be mentioned that spectacles of various kinds *are* made commercially to head off pecking, some of the more conscientious hens are wearing them, and they have proved moderately effective.

Forest dividends

OUR national forests this year are paying cash dividends to one-fourth of all the counties in the United States. A total of $2,475,655 will go to 826 counties, representing 25 percent of the gross income received by FS from operation of 201 national forests and purchase units during the last fiscal year.

National forest receipts come from sales of timber and other forest products, livestock grazing fees, and permit fees for resorts, summer camps, and numerous other special uses. The 25 percent payments are an annual contribution in lieu of taxes to the counties in which national forest lands are located. As the money is earmarked for county roads and schools, you might say that our foresters are helping to support the education of youth and to keep up the rural roads.

All cutting under national forest timber sales must be according to FS rules which safeguard future timber growth. National forest grazing is adjusted to carrying capacity of the ranges. So the income-producing resources are being maintained and the counties can count on continuing dividends.

Many of the lands purchased for national forests in recent years were seriously depleted by destructive cutting and repeated fires. They brought the counties little in tax revenue; many were chronically tax delinquent. Now under FS management some are already yielding substantial returns, and as rehabilitation and development work progress, the income will increase.

Molds and men

"REVERSIONS in Morphology of Nitrite-Induced 'Mutants' of Aspergilli Grown on Amino Acids." If you saw a title like that you'd probably turn over to the nearest mystery story and try to forget it. It is the title of a paper in a series by Robert A. Steinberg and Charles Thom (retired) of PISAE. The studies reported demonstrated that molds would undergo wide changes in structure, appearance, and physiology when treated with certain chemicals.

Such molds are called "injury mutants." Some of them are identical with specimens that have been labeled new species. By means of other treatments many of them can be caused to revert to their original form. These changes are due to injury of individual cells. Some of the new strains lose power to use nitrogen in certain nutrients. At this point you may well ask what that had to do with the price of peanuts.

The work, remote as it seems, is important because the same sort of thing has been found to happen in animal cells exposed to toxic chemicals which induce cancer. Also crown gall in plants has been held to have a relation to animal cancer. In each case the capacities and character of individual cells can be altered by treatment with toxic substances. The maladjustments caused in the cells are inheritable. Thus studying the cells of fungi improves our understanding of responses in animals. So science builds new knowledge.

Light in dark places

DO you feel that your work isn't important just because it doesn't show up in your agency's program and policies?

A couple of weeks ago, the Denver office of FSA decided to show its employees just how important they really are. Every day for one week, it gave a one-hour course in the purpose, the program, and policies of FSA, and took pains to fit each job into the whole. The employees ate the information up—and when the "school" was over, they asked for more!

Duckling—or swan?

WHAT WITH the labor shortage and need of keeping good workers, personnel officers may be interested in the story of the Ugly Duckling who turned out to be a beautiful swan.

The Director of Personnel had picked up a letter from the desk of the Chief Clerk and was looking at it appreciatively. "That's the best locking letter I've seen for ages," he commented. "Why can't that girl do my work?"

"She's the best typist we have," agreed the Chief Clerk, "But we're letting her go. She's returning to her home in Iowa the first of the month—she's getting too hard of hearing to take dictation or use the phone."

"What? You're letting her out on that account—and you were in my office early this week with a crying towel because we couldn't dig up a stencil cutter for the duplicating pool. Once upon a time there was an Ugly Duckling—"

The Chief Clerk looked puzzled. "Buck up!" grinned the Director, "what difference would deafness make to a stencil cutter?"

The Chief Clerk thumped his forehead. "Gosh, Chief," he stammered, "you're showing me why you're head man around here and I'm just a clerk. It wouldn't make any difference. In fact, nobody but a deafened person should work down in that bedlam."

A new duckling in the pool

Down in the basement he hunted up the foreman of the duplicating pool. "Jim!" he roared, "I'm putting a new duckling in your pool."

"Fine!" Jim Mecklin howled back. "I'll have some more water piped in at once."

"Seriously," said the Chief Clerk. "the Old Man just showed me up. We've got the best typist in the whole shop upstairs, and I was letting her out because she's getting too deaf to take dictation. So the Boss said 'Ugly Duckling.' He was trying to tell me that a deafened girl might still be a crackerjack stencil cutter."

"Right!" shouted Mecklin. "If she's a fast and accurate typist, deafness will cut no ice. Our jobs have slips attached telling just how the work is to be done."

So, thanks to modern personnel methods, the girl need worry no longer about her increasing deafness. And Mecklin—well, the Chief Clerk met him a week later and inquired about the "duckling." "Let me tell you," said Jim, "that Ugly Duckling turned out to be the niftiest little swan in the whole pool."

Long, long ago

IN THE April 1 issue we mentioned Harvey W. Wiley. Some veterans remember that he carried on his famous "poison squad" experiment at the turn of the century. Various employees of the Bureau of Chemistry ate all three meals right in the Bureau, so that it could be ascertained whether small quantities of chemical preservatives commonly used in foods were injurious to health. The decision was that they were not.

One man, William R. Carter, was employed as waiter, entering the service in December 1902. He served all the meals throughout four years of the experiment. He was so pleasant and competent, and so tactful in waiting on these human animals, who often developed unpleasant temperamental streaks, that he was continued in the service after the experiment ended. He was first assigned to the Animal Physiological Laboratory, then under Dr. F. C. Weber.

They also serve

He found time outside hours to get a degree in pharmaceutical chemistry from the Washington College of Pharmacy. He was then assigned to the Drug Division in subprofessional service. In 1932 he transferred to the Food and Drug Administration's Division of Bacteriology, where he still works, preparing test solutions, staining solutions, and culture media. He has served more than 40 years.

Carter put the editor onto things when he himself first entered the service in 1910. Already a veteran, he was helpful to an aspiring newcomer. Quiet, efficient, kindly, like many others on small salaries, William also served as well as waited. He and his agency left the Department in 1940, of course, but 30 years of his service belongs to us likewise.

Bureaucrats

WHEN the editor is on field trips he is usually spoofed for being a bureaucrat. So are you, no doubt. Not long since a little group of farmers did the spoofing in the presence of the county agent. What they somehow forgot was that the county agent was a bureaucrat. They also tend to forget that Ext., REA, AAA, SCS, FCA, FSA, and other Federal and State employees they see in their counties are bureaucrats.

These bureaucrats, however, impress them as useful and necessary. The USDA in Washington they somehow regard as a remote and superfluous institution that could easily be much curtailed. They fail to make the important connection between what goes on in Washington and the assistance rendered them in their own county. A public servant is a bureaucrat you know personally who helps you solve your problems.

Temper

THE ANCIENT Chinese said: "Do not get angry. You will have less to explain later." Always remember that whenever you lose your temper you do so because your position is weak and you feel vulnerable. Fortified by the knowledge that you perform your duties fully and well and that you have done what is right you lose all warrant for loss of temper.

When you keep your temper in the presence of another's anger you also have that person at a tremendous disadvantage. We lose our tempers only when we know our position is weak. If we have acted as we should the truth is bound to prevail and it is our only sure protection. Temper is the beginning of violence and violence never settled any problems. The problems are settled after violence vanishes.

Personnel policy: Have you secured your copy of General Departmental Circular No. 34, April 17, containing a broad, comprehensive statement of current personnel policy? Make application through your own bureau channels. Be sure to read this circular with care.

Information wanted overseas

FARMERS in Allied, neutral, and sometimes enemy nations are greatly interested in agricultural news from this country, according to the OWI Overseas Branch.

A weekly Agricultural Commentary, written for overseas use by Lou Childers, of the Department's Press Service, is used regularly in many OWI outposts serving foreign lands, where war has stopped the normal flow of dependable agricultural information on which farmers overseas depend just as they do here. In addition, OWI can use information direct from the field, whether plain how-to-do-it narratives from the farm or accounts of scientific progress from the experiment stations.

The scope has broadened somewhat since the early days of the war, when USDA employees contributed colorful, factual accounts of American farm families of foreign-born ancestry raising Food for Freedom to defeat the Axis. Many such farmers, in fact, made recordings for short-wave broadcast to Europe. Such human-interest stories are still good. In addition, according to reports from overseas outposts, there is a large and growing demand for practical written material. Requirements differ with regions—South Africa, for example, is particularly interested in citrus fruits.

Material need not have a "foreign angle" necessarily, though a little reflection will often show how a fact which would be no news in this country may be quite interesting abroad. A slight but typical example: OWI found interesting the facts that Roy Hendrickson, former USDA official who now has a high post with UNRRA, is of Norwegian ancestry, his wife is of Icelandic descent, and he comes from a community where ginseng was once raised for the Chinese market.

Items or suggestions for overseas use by OWI may be sent direct to Arch Robertson, care of the Department, 535 Administration Building; he is a former editor of *USDA*, now with OWI, helping to round up material for overseas use. Or write direct to the present editor of *USDA*, who would like to see the stories, too.

Brief but important

Ellis joins Motion Picture Service: Don Carlos Ellis has rejoined the Department motion picture staff, after an absence of 24 years, to help produce FFFF films. During the last war Mr. Ellis organized and was the first chief of USDA motion picture work, leaving in 1920 to enter the commercial field. Now he brings to the Department wide experience in documentary and business films.

SCS author: The recent publication of a book, Natural Principles of Land Use, by Dr. Edward H. Graham, Chief of SCS Biology Division, may be of interest to *USDA* readers. The book deals with biological viewpoints of the wise use of land and the ways in which plants and animals influence land use. Those engaged in research as well as operations programs will find good material in this publication, which translates scientific study into action on the land.

Mrs. E. H. Wharton retires: Elna H. Wharton, in the Department since 1921, retired June 30. She has written articles, press releases, and radio scripts for Inf. on all homemaking subjects. Outside of the office, she has contributed articles to well-known women's magazines, including the Ladies' Home Journal and Woman's Home Companion. Mrs. Wharton's husband, the late George Wharton, organized and was the first Chief of the Department's Press Service.

USDA and industry: An employee in commodity exchange work for the Dist. Compliance Branch recently had to call on the vice president in charge of research of a huge food corporation. The call concerned a new method of using rye for sirup production in lieu of wheat and corn, now difficult to obtain. The company official assured him that, but for the experimental research of USDA and the State experiment stations, not even a company so large as his would care to risk the time and expense involved in developing new processes. Whereupon our man plugged USDA as much as seemed warranted and felt mighty puffed up besides.

P. C. 100 Military Training and Service (Revised):

Adds instructions regarding physical examinations for employees returning from military furlough; restoration rights of veterans whose agency or work project has been abolished; leave without pay up to one year for returning veterans who require additional time to recuperate from illness or injury sustained during military service, etc. The revision also incorporates a major change in policy with regard to the furlough for military service of employees holding War Service appointments. Instructions formerly stated that such employees would be furloughed and had reemployment rights in the position held at the time of entering the armed forces, regardless of whether the position was encumbered or not—an encumbered job being one to which an employee now in the armed forces, or sometimes elsewhere, has a prior right. Now, however, if a War Service appointee entering the armed forces occupies an encumbered position he must be retreated to and furloughed from his last occupied unencumbered position, or if he has never occupied anything other than encumbered positions he must be retreated to and furloughed from his original War Service position.

In-service training survey: A. W. Miller, BAI Chief, has circularized Bureau employees to learn their interest in resident or correspondence courses relating to their work. One proposed subject is report writing to develop habits of clear, direct, and concise writing. Another is the legal basis for disease-control programs. Others relate to technical developments in animal-disease control. This program is being carried on in cooperation with Pers. and the Graduate School.

One good bureaucrat: Nation's Business is not in the habit of praising bureaucrats. On the contrary. However, you should see Herbert Corey's article in the April 1944 issue, entitled "Scientist with his Feet in the Topsoil," wherein Hugh Hammond Bennett, SCS, wins admiration, encomiums, and full approval. Here is a very obvious admission that the Federal Government possesses at least one useful, outstanding bureaucrat.

Montana: Montana, High, Wide, and Handsome, by Joseph Kinsey Howard, is worthwhile reading for all USDA workers. While it often commends our work it sometimes criticises adversely with considerable reason. As a study of our recent attempt to atone for our previous shameless exploitation of a rich domain it is well worth while. Both the despoliation and the rehabilitation get full treatment.

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USDA

FOR JULY 24, 1944

WFA's Office of Labor

MORE than 100,000 workers from foreign countries are in the U. S. this summer to help relieve farm labor shortages in critical areas. They come from Mexico, Newfoundland, and three British West Indies Colonies—Jamaica, Bahama Islands, and Barbados. The WFA agency handling this agricultural "task force" is the Office of Labor, established June 21, 1943, and headed by Brig. Gen. Philip G. Bruton, Director of Labor.

All WFA functions relating to intrastate labor—the U. S. Crop Corps and its subdivisions, the Women's Land Army and Victory Farm Volunteers—are the responsibility of Ext. OL manages the foreign and interstate phases of the farm labor supply program.

Recognizing farmer need for governmental assistance in meeting the wartime labor problem, Congress provided for this program last year with the passage of Public Law No. 45, approved April 29. An appropriation of $26,100,000 was made to the War Food Administrator, who was directed to allocate not less than $9,000,000 and not more than $13,050,000 to the State extension services. The program was continued this calendar year under Public Law No. 229, approved February 14. This year's appropriation amounts to $30,000,000, plus the unexpended balance of 1943 funds, with the States getting not less than $14,000,000 and not more than $18,500,000, including the funds apportioned to them last year.

The program

The program works thus: Community mobilization campaigns are conducted by county agents and other Ext. personnel to obtain farm workers, including men, women, and youth from towns and cities. States unable to mobilize sufficient farm workers within their respective borders certify to OL a need for outside help. Then either foreign workers, or workers from States able to spare some of them during slack periods, are transported by OL into the shortage States. Last year OL transported 14,000 workers from 26 States to 22 other States for seasonal farm employment, and supplied 52,098 Mexicans, 8,828 Jamaicans, and 4,698 Bahamians to 32 States.

Foreign workers in the U. S. this year for work on farms—or, under certain conditions, in agricultural processing establishments—consist of 75,000 Mexicans, 18,000 Jamaicans, 5,700 Bahamians, 900 Barbadians, and 1,500 Newfoundlanders. The Mexicans are being employed in Western and Midwestern States, the West Indies workers in Atlantic Seaboard and Midwestern States, and the Newfoundlanders in Northeastern States.

OL selects and contracts for the foreign workers in their home countries and provides for their transportation to and within this country and back to their home countries at the expiration of their contracts. It also contracts with farmers or processors for their employment, arranges for their housing either on the employers' premises or in farm labor supply centers, or camps, operated by this agency, and furnishes medical care to the workers. These camps operated by OL for housing interstate and foreign farm workers include those formerly under FSA.

Wages

Another activity administered by OL is the farm wage and salary stabilization program. The War Food Administrator delegated his powers in this field to the Director of Labor. Wages and salaries of agricultural labor which amount to $200 a month or more are "frozen" and cannot be increased without his approval.

Approval is required to reduce wages or salaries for any particular farm work below the highest amount paid for that work between January 1 and September 15, 1942. Farm wages and salaries below $200 a month are exempt from control except when they come under specific wage ceiling regulations issued by the Director of Labor and administered by State WFA Wage Boards.

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Itinerant bureaucrat

MOST soil conservationists get around over a lot of land, but there's little doubt that this chap Lowdermilk (Dr. Walter C.), Assistant Chief, SCS, has prowled farther afield, for the sake of more facts about more land, than any other man, past or present. As a forest ranger in Arizona, he began stalking soil erosion almost 30 years ago, when he first saw what overgrazing does to ranges of the dry-land country. With the Engineers of the A. E. F., he roamed the war-torn fields of France—and decided to devote his life to conservation of land whence comes food for all the world's people.

China claimed him in the early years of the lull between World Wars. For 5 years, on a project of the University of Nanking for famine prevention, he chalked up thousands of miles through China's vast loessial regions. He discovered and charted incredible erosion in uplands feeding silt to the Yellow River and followed the trail of engineers of past centuries in their attempt to stem the tide of "China's Sorrow." It was here that Dr. Lowdermilk set up the first of a series of studies of accelerated erosion as it affects human communities of the present and as it has affected civilizations of the dim past.

Since 1933, when he was called to Washington to help with the launching of a national soil conservation program, Dr. Lowdermilk has been a veritable ambassador of modern conservation farming in his own and many other countries. He traveled the rolling roads of Old England; surprised French peasants in the act of rotating fish crops and grain crops; plowed through the sands of Egypt and Lybia; backtracked to Syria, the Trans-Jordan, Palestine, and the Valleys of the Tigris and Euphrates.

China and Syria

Searching always for water-saving practices and erosion-control methods which might be adapted to the farms and ranges of the United States, he piled up volumes of valuable data for the Department. Also, this practical scientist with strong philosophical bent continued the studies, started in China, of the effects of different farming practices and traditional land-use policies upon human advancement.

Outbreak of the Second World War found Dr. Lowdermilk in Syria, just as he had completed a survey of the erosion-devastated lands surrounding the "hundred dead cities"—once a region of rich agricultural soils and extensive forests. Since Syria and the "dead cities," no one disputes this itinerant soil conservation-

ist's conviction that accelerated erosion, long continued, rings the death knell of civilizations.

China "borrowed" him again in 1942–43. As Government adviser in an energetic program to conserve the land and increase food production as a part of the war effort, Dr. Lowdermilk, with a staff of eight Chinese specialists, covered nearly 7,000 miles in China's romantic Northwest—out to the borderlands of Tibet and the Desert of Gobi. They surveyed the land, evaluated farmer practices, charted areas where land wastage was most serious and famine hazards most pressing.

Then they set up demonstrations of simple conservation practices the farmers could use to increase yields within one season. Farmers came to see, to learn, and to request that their own farms be used as demonstrations. They organized the first soil conservation association to be formed in China and set to work at once to solve their erosion problems cooperatively. Before Dr. Lowdermilk returned to the U. S. last January, a national soil conservation program for all the land of China had been drawn up in detail and stamped "approved" by the Government at Chungking.

Southern Lab

AIC's Southern Regional Research Laboratory lies on the outskirts of the historic city of New Orleans. It is damp and humid there. The climate conduces to lethargy. But the Lab staff works like beavers. Well, anyway, the Lab is air conditioned!

When visited recently, the Lab's main problem was the development of improved types of cotton tire cord for Army tires and essential civilian highway-truck and bus tires. Most of the personnel of the Cotton Processing and Cotton Fiber Research Divisions was on this problem. The first-named Division has a complete experimental textile mill right there in the Lab with all modern equipment. Fiber and Chemical Finishing personnel is at work on physical and chemical treatments and relationships.

Cotton miracles

The Lab cooperates actively with the Rubber Director's Office, textile manufacturers, tire makers, and the Army, in this complex program of turning cotton bales into tire cord. PISAE collaborates in selecting cotton varieties used. Detailed results are still hush-hush, but it can be said that low-gage cotton cord tires from one cotton variety have outperformed other such tires tested by the Army. Tests of highway tires impend.

Lab technologists have also designed and developed a pilot-size machine that cuts lint cotton into lengths suitable for processing into smokeless powder. A full-size machine is being built. A lightweight cotton fabric has been devised to replace burlap for handling Hawaiian raw sugar; it proved superior to burlap on test. Excellent substitute binder twines have been tested for the WPB, using a standard grain-binder knotter. A simpler, quicker, and cheaper process for stabilizing nitrocellulose has been discovered.

All cotton work is carried on with close Army-Navy collaboration. Fabrics for the armed forces have been improved by increasing their resistance to weather, fire, and microorganisms. A more efficient and lasting flame-proofing technique has been worked out. A new type all-cotton bandage has been devised and tested at local hospitals. It is semielastic, does not slip, and several commercial bandage manufacturers are interested.

The sweetpotato

The Sweetpotato Products Division has been working with the Laurel (Miss.) Starch Plant on better methods of making starch from sweetpotatoes. We need increased supplies of root starches to replace 300–350 million pounds formerly imported. They are required for remoistening gums, in textiles, and for food. A pulpy residue remaining after starch extraction makes a fine cattle feed.

There are other potential byproducts—a protein, a feed-yeast protein, and a good pectin. A sweetpotato starch plant is already being constructed in southern Florida on a basis of this and related AIC research. It will have an annual capacity of some 50,000,000 pounds of starch and is a multi-million-dollar enterprise, privately financed.

The Engineering and Development Division runs the pilot plants. It has a complete pilot-scale factory for the production of rubber from goldenrod (grown by FS), using an acetone and benzene extraction process. Good experimental bicycle tires were made therefrom, but this work ceased July 1.

Tailored oils

In the Oil, Fat, and Protein Division cottonseed and peanut oils are being tailored for specific uses. A product closely resembling cocoa butter is being made from cottonseed oil, useful as an enrobing fat for manufacturing Eskimo pies and such. Industry is already interested; kinks remain to be ironed out. A substitute for olive oil *as a textile lubricant,* is being produced from peanut oil.

Peanut oil is also being winterized, and the stearin removed easily by filtration, by means of a specially designed apparatus something like an ice-cream freezer. The winterized oil can be used in salad dressing. Processes are being worked out for new industrial uses of cottonseed and peanut proteins. Many types of adhesives and gums have been made. A rewettable glue for the gummed paper trade is in the offing.

The Analytical and Physical Chemistry Division assists all the Lab staff with their problems. It provides both routine and specialized services, including straight chemical analyses, X-ray, spectrophotometric, spectroscopic, physical, chemical, and viscometric determinations.

Byrnes luncheon

THE Director of War Mobilization, James F. Byrnes, met with Ext. workers and their guests in Washington June 19 at a staff luncheon sponsored by the District of Columbia Chapter of the National Honorary Extension Fraternity, Epsilon Sigma Phi.

Justice Byrnes paid tribute to the American farmer who has produced abundantly in spite of handicaps and to the Ext. leadership which made this possible. Speaking of the 1,700,000 boys and girls in 4–H Clubs, he said that, like trained soldiers going into battle, they were an inspiration and helped to bring about our victories on the farms of the Nation. He also discussed some of the problems and plans under way for post-war agriculture.

The extension fraternity is made up of Ext. workers who have been in the service at least 10 years. As the Justice said, they must be interested in their work or they would not have remained 10 years, and "only those who are interested in their work will ever make much of a contribution to its success." The fraternity is organized in 47 States, Puerto Rico, Hawaii, Alaska, and the District of Columbia, and has 3,650 members.

Director M. L. Wilson presided at the Byrnes luncheon. Among the guests were War Food Administrator Jones, Under Secretary Hill, Assistant Secretary Brannan, C. W. Warburton, FCA Deputy Governor and formerly Ext. Director, G. F. Gilchrist, president of Texas A. & M. College, Director F. A. Anderson of Colorado, Associate Director Aubrey D. Gates of Arkansas, several extension editors and 10 members of the executive committee of the National Association of County Agricultural Extension Agents.

Fourth of July

AT 7:15 this morning, July 4, a Negro laborer rode up in the South Building elevator. He had a sledge hammer in each hand. Finally he addressed the elevator operator and your editor as follows:

"I had never intended to spend my birthday this way. It's my birthday and the country's birthday and here I am with two sledge hammers going to knock a wall down. My mother never intended that when I was born.". We all laughed.

A short while ago the editor was in the Twin Cities. Everybody was preparing to take a 4-day holiday over Decoration or Memorial Day. More recently he was in Kansas City. Everybody was preparing to take a 4-day holiday over July 4. That is, everybody except the Federal Government employees.

Let's tell 'em

We remain on the job this and every other holiday, except Christmas, by the order of the Commander in Chief of the U. S. armed forces. If he so orders, here is where we should be.

But field trips make it plain that people outside Government not only have no idea we work holidays—they think we work 7 hours a day and have half-days Saturday. Many of them still think we pay neither Federal nor State income taxes.

There is no reason we should leave them in ignorance about such things. Let's enlighten them. We put in the time. We do the work. We are here to serve every day, holiday or no holiday. We work 8 hours 6 days a week, and we pay both Federal and State income taxes. Let's inform people outside the Federal service about these things.

Emotional maturity

A WHILE ago a certain employee became incensed because an intellectual worker in the same room often could not engage in conversation in view of the nature of that work. The latter finally, in a fit of absent-mindedness, failed to say good night to the former one evening on leaving the office. Thereupon due complaint was made to the personnel officer and a transfer was demanded. Then a cool, sullen spell developed and lasted for weeks. This ridiculous story is true, however improbable. Such workers block their own progress.

Workers who refuse to grow up emotionally can and do cause plenty of trouble in all large institutions. They do not learn self-control in difficult situations. They usually regard themselves as hard-worked martyrs to others who block their advancement. They are unable to press family and home affairs back into subconsciousness so as to put the job first *when on the job*. Generally they are hypersensitive. Some of them insist they cannot even work in the same room with others.

Yet it is perfectly possible to work for years, efficiently and without stultification, both with and for others we dislike, or even for whom we have contempt. This merely requires emotional maturity and a refusal to look for fancied slights and insults. So many of us are reluctant to grow up. We demand the right to outbursts of anger and irritation and to other childish indulgences. If we would just grow up we should find that emotional adulthood was not so bad after all. It solves many problems we previously considered insoluble.

Materials and Facilities

THE Office of Materials and Facilities (M & F), one of the constituent agencies of the WFA, was created by Executive order, March 26, 1943, centralizing within one department the functions formerly delegated to four separate organizations. M & F consists of 7 branches currently employing 281 persons. The present Director is James W. Millard.

This Office aids in the successful fulfillment of the war food program. In order to meet food production goals, farmers require agricultural machinery, equipment, and fertilizer, particularly in view of the current farm labor shortage. The food-processing industry must be provided adequate replacement machinery, containers, and chemical preservatives to process the enormous amounts of meats, vegetables, and fruits which are consumed at home and stocked for shipment overseas. Warehousing and cold storage facilities must be maintained and, where necessary, expanded in order to secure efficient distribution and prevent food spoilage. These are but a few of the problems which must be handled expeditiously by M & F.

Acting for the War Food Administrator, the Office serves the farmer and the food industry by formulating programs and presenting requirements to those agencies which control materials and facilities, namely, the War Production Board, Petroleum Administrator for War, Office of Defense Transportation, Solid Fuels Administration, and the Office of the Rubber Director. M & F also assists farmers by advising with OPA on gasoline rationing methods suitable to farm requirements and by advising with ODT on truck transportation programs.

In addition to these responsibilities, M & F directs, through the AAA: (1) The rationing and allocation of farm machinery, equipment, building supplies, fertilizers, and other agricultural materials; and (2) the farm transportation program (in cooperation with ODT), including assistance to farmers in placing before War Price and Ration Boards and ODT offices evidence of need for tires, off-highway gasoline, and tractor fuels.

Dehydration expert

EDWARD MACKAY CHACE, of AIC, retired at the end of June. He entered the old Bureau of Chemistry in 1902 and in 1914 was assigned to help California citrus growers with their problems in a unit at Los Angeles that became known as the Laboratory of Fruit and Vegetable Chemistry. The first accomplishment was to establish maturity standards for oranges.

It had been the custom to ship immature oranges East at high prices for the Thanksgiving and Christmas trade. This dissatisfied consumers; prices broke, and they long remained low. Setting the maturity standard solved the problem and *profited the citrus industry $4,000,000 during the first 7 years of its use.*

Much work was also done on citrus by-products; the composition of citrus and other fruits and vegetables; the ethylene treatment of citrus fruits; stick-tight walnuts; frozen citrus fruits; sulfuring, sun-drying, and dehydration of apricots, peaches, and pears; frozen packs of fruits and vegetables; citrus and other fruit juices and blends; maturity standards for cantaloups and pomegranates, and allied products.

Big finish

Since 1941 Chace has had active charge of the vegetable-dehydration project in the war effort. For 2 years he was chairman of the AIC's Dehydration Committee, stationed at Albany, Calif. He wound up his career in a blaze of active public service of the most urgent and important kind.

A native of New York, Chace was educated in Washington, D. C. Before entering the Department he was a chemist in the Cuban Customs Service and a student of the citrus essential oil industry in Italy. He expects to continue consulting work after retirement. So another long-time friend of the editor leaves active harness.

Training Council

THE Department Training Council was set up February 28, 1940, as a result of the recommendations of the Committee on In-Service Training appointed by Secretary Wallace in compliance with an Executive order of June 24, 1938.

The purpose of the council is to review and approve training policies and programs of the Department. Special committees such as those on improvement of supervision, administrative training, replacement training, and trainee-intern programs and publications have perfected plans for administering training programs on a Departmental level. The membership of the council consists of the Chief of the Pers. Division of Training as chairman and a representative of each agency.

The council holds luncheon meetings once a month. Some of the recent programs were: A Management Challenge to Department of Agriculture, J. M. Juran, Assistant Administrator, Foreign Economic Administration; War Prisoner Training Program, Don Rochester, formerly Training Officer, FS; and USDA Club Program, Personnel Director Reid, Finance Director Jump, and Under Secretary Hill.

ACE meeting

THE American Association of Agricultural College Editors met at Manhattan, Kans., June 27–29. Host Editor Lisle L. Longsdorf did an outstanding job. The arrangements were perfection, and that included prompt transportation by auto wherever and whenever editors had to go!

Highlights: The very fine address by President Milton S. Eisenhower of Kansas State (former USDA Director of Information); Reuben Brigham's reflections on 30 years in Extension, which turned out to be only 29 by actual count; and Keith Himebaugh's felicitous talk. For entertainment no comic effort at any ACE convention ever came anywhere near the solid humorous value of the superb banquet performance by Dr. Howard T. Hill, head of KSC Department of Speech.

All is forgiven

A spirit of spontaneous fellowship brooded over this, the first ACE convention since the one in Kingston, R. I., in 1941. Their executive committee who recently visited the Department—Porter (Utah), Sample (Ind.), Sims (Tenn.), Brackeen (Ala.), Lane (Tex.), and Reck (N. J.)—declared that they had found the USDA-WFA better unified and more friendly all around than for many, many long years.

Eliminating best varieties

THE retirement June 30 of Dr. Thomas H. Kearney, PISAE, after 50 years of service with the Department, recalls an interesting experience of his while in North Africa in the early 1900's searching for superior date palms to aid in establishing commercial date growing in the southwestern United States.

Much to his surprise, he found that one of the very best varieties, which he had hoped to obtain in some quantity, had practically disappeared. The very palms had been dug up and destroyed by their owners! Culling superior in lieu of inferior varieties was something new to Kearney.

But it seemed that the rulers of the district had a habit of serving only the very best dates at their frequent banquets. To provide this fruit, their agents visited the groves and took over the entire crop of the finer varieties—and neglected to pay for the dates! After a few years of this, the growers decided it was more profitable to grow slightly inferior dates that they could keep. So the palms of the finer varieties were soon being attacked by a very mysterious "disease" and gradually disappeared from the groves!—JOHN A. FERRALL, PISAE.

Brief but important

C. E. Ramser awarded medal: Charles E. Ramser, SCS, has been awarded the John Deere medal for 1944 by the American Society of Agricultural Engineers. With the Department for the past 31 years, Mr. Ramser is a world-known authority on hydraulics and hydrology. He has studied engineering problems on drainage of farm lands, erosion control, and related subjects. S. H. McCrory received this medal in 1938 and R. W. Trullinger in 1941.

USDA mimeographs: USDA now has eight mimeographed documents, each of which can be supplied to those who need them in limited quantities. (Washington personnel, phone 4842 or 4875; field personnel, write the Editor of *USDA*.) Units which want a whole lot of any of them can usually arrange to borrow the stencils. Frequent revisions are made as required. They are:

(1) *Structure, Functions, and Origins of the Department of Agriculture and its Constituent Agencies, 18 pp.;* (2) *Department of Agriculture, War Food Administration, and Constituent Agencies (Origins, Structure, Functions), a much more comprehensive compilation in 59 pp;* (3) *Abridged Chronology of Agriculture's Part in the War;* (4) *Condensed History of the U. S. D. A.;* (5) *Current List of Top Officials of USDA-WFA;* (6) *Most Important Research Achievements of Department of Agriculture Scientists During Recent Years;* (7) *Outstanding Scientific Publications by USDA Research Workers Issued by the USDA;* (8) *Abridged List of Federal Laws Applicable to Agriculture.*

Fact Sheet on Food: An 8-page item on this subject has been processed and distributed. If you want to educate yourself so that you can answer queries about our food policies, programs, and activities, appeal to your own information people for a copy to read. Essential facts about food supply, rationing, civilian allocations, farm labor, Victory Gardens, home food preservation, food conservation, nutrition, and marketing plentiful foods are to be found therein.

C. G. Woodbury leaves: Charles G. Woodbury, special assistant to the Agricultural Research Administrator since January 1943, has resigned to return to his position as Director of Raw Products Research for the National Canners Association. Dr. Woodbury's work has been largely on foods and food processing. Dr. C. A. Magoon, with PISAE since 1918 and associated with Dr. Woodbury for the past year, will take over the latter's work in ARA. Dr. Magoon has specialized in bacteriology, chemistry, and crop production.

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USDA

FOR AUGUST 7, 1944

Office of Personnel

AMONG the first acts of the first session of the first Congress was one (act of September 11, 1789; 1 Stat., 67) which provided for "* * * * establishing the salaries of the executive officers of the Government, with their assistants and *clerks.*" Thus was born the "Government clerk."

The species has thrived and multiplied. On June 30 there were 61,371 full-time people on the pay roll of the Department. Getting them hired, fired, promoted, demoted, paid, trained, etc., takes a deal of time and energy.

Not so long ago the Secretary personally reviewed and approved or disapproved each appointment, raise in pay, demotion, or separation of an employee of the Department. But no more. Today the number of transactions affecting employees of the Department runs into the tens of thousands per year and it would be a physical impossibility for any one person to read and act upon these cases.

The Secretary and War Food Administrator now have time only for matters of broad personnel policy, for personal consideration of actions affecting employees in the top positions, and for review and action on recommendations to remove employees against whom charges are preferred. Responsibility for the rest has been placed on the shoulders of the Director of Personnel.

Present set-up

Secretary Wallace issued a memorandum (No. 646) 10 years ago to bring this about. He specified that the Director of Personnel "* * * will be the general agent and representative of the Secretary of Agriculture in personnel, salary classification, organization, and related matters and will exercise general oversight and supervision of the personnel and related activities of the Department."

The Office of Personnel (Pers.) carries on today along the lines indicated in Secretary Wallace's memorandum. Internally, the Office is organized into six Divisions, as follows:

Employment, which is concerned primarily with recruiting and placement; Classification, which allocates positions and administers laws and policies governing pay; Personnel Relations and Safety, which promotes employee welfare and administers grievance procedures; Training, which promotes and assists with in-service training programs; Investigations, which gets the facts about irregularities and recommends disciplinary actions and removals; Organization and Personnel Management, which reviews and makes recommendations to the Director regarding proposed plans of organization or reorganization throughout the Department.

Pers. serves the War Food Administrator just as it serves the Secretary. Increasingly, it is becoming a staff agency concerned with the formulation and interpretation of policies and the development of standards. Most individual personnel actions are handled in the bureaus under delegated authority. In order to insure uniform adherence to policies and standards, the central Pers. continually reviews actions taken by the Bureaus under delegated authority.

The Director

T. Roy Reid, present Director of Personnel, is a veteran in agricultural work. He entered Government service as a county extension agent in Arkansas in 1918. From 1933 to 1935, he was in charge of AAA work in Arkansas, in addition to serving as Assistant State Director of Extension. In 1935, he became Regional Director of FSA. In March 1941 Secretary Wickard brought him to Washington as his Chief Staff Assistant, and in December 1941 designated Mr. Reid to succeed Roy F. Hendrickson as Director of Personnel.

Meat outlook

A BIG juicy T-bone steak!

Sure, we know T-bones, pork chops, and lamb are scarce. With fatter pay checks and ceiling prices on meat, more people have the wherewithal to buy these better cuts. Then, too, steaks and chops are "fry" meat. The housewife who is doing most of her cooking with a welding torch down at the Navy Yard hasn't time to prepare a nice brown roast or vitamin-rich beef stew. And yet, that's the kind of meat most plentiful.

It's too bad steers and hogs couldn't have been invented with lots of steaks and chops and a minimum of neck and brisket. But they still come with about the same proportions of hocks and flanks and ribs. The Prime steer is out for the duration, too. The final touches in fattening a steer to make Prime grade have been listed as nonessential—takes too much feed for the extra finish.

The trend in hogs is to lighter weights. WFA is trying to make feed supplies go as far as they will in producing milk, eggs, and meat. The war-model steer or hog is the one that produces the most with the least—the one that makes the best use of the feed it gets.

Hog on ice

August is one of the in-between months. The major portion of the 1943 pig crop has been marketed. Markets should no longer be jammed with hold-over hogs. The 1944 spring pig crop won't be moving in much before late October. The heavy marketing of cattle normally isn't on until about September and October. From here it looks as though the peak of our beef supply is up ahead. The peak for pork and lamb is passed. But with all the meat we have on ice, there should be no famine.

There has been considerable anxiety over this fall's cattle market. Gluts such as those experienced in the hog market last winter and spring are feared. But with fewer hogs and a good feed crop some of the cattle should be moved into feed yards instead of packing plants. This would spread marketing and reduce the pressure on packers.

While the 1944 spring pig crop of 56 million head is the third largest on record and is 21 percent larger than the 10-year (1933–42) average, it is still 24 percent less than the 1943 spring pig crop of 74 million. This means fewer hogs to market this winter—fewer than last year but more than before the war.

Calf slaughter has continued heavy all summer. Lamb and mutton has been relatively scarce and probably will continue so. A reduction in sheep numbers has been going on for the past two or three years. But lamb and mutton make up only about 4 percent of the total meat supply. The 1944 production of meat is roughly 50 percent pork, 40 percent beef, 6 percent veal, and 4 percent lamb and mutton.

No vegetarianism

Anyone who is under the impression that civilians are going without meat to feed the armed forces should take a glance at consumption figures for the first 6 months of 1944. During the first quarter, consumption was at the annual

rate of 158 pounds per capita—only a few pounds under the record of 162 pounds back in 1908 and 32 pounds more than the pre-war (1935–39) average. Consumption for the second quarter was only a few pounds less. Consumption for the balance of the year is expected to be at a lower rate, with the average for 1944 estimated at about 145 pounds.

Despite this near-record civilian consumption, there has been enough meat to meet requirements of our military forces and commitments to our Allies. United States farmers have produced more meat than was ever produced before. And maybe that big juicy steak went to the Army. More than half the meat going to our military forces is beef. On the other hand, only about 1 percent of our beef supply is going to our Allies, none of it to Russia. But to meet all these requirements some quality has been sacrificed for quantity.

Meat has a war job. So don't expect it to put on too much style until after the war is over. Its social obligations may have to be forgotten until the boys get back.—MILT MANGUM, *Marketing Reports*, OD.

Errors

EVERYBODY makes errors. That is why we have typewriter erasers. The correction of any error by someone else should be welcomed, not resented. So often we become enraged when others call attention to errors we have made. We should, on the contrary, thank the person courteously who draws our attention to errors of fact or judgment.

In a great organization like ours, no one person can presume to speak for the institution. No matter how experienced a writer is, he cannot simply dash off something—even a letter—and have it accepted for issuance as it stands. For he is surrounded by others, only some of whom are his superiors, who know a great deal more about a great many things than he does.

In this hierarchy of bureaucracy each of us has someone working beside us, or some supervisor, who checks what we do. This goes right on up the line. The Secretary and War Food Administrator can be checked or corrected by the President and the President himself may gratefully acknowledge the correction of errors by his trained subordinates.

When we make an error and become angry at its correction, we are in reality angry with ourselves for having made it. Better far to recognize the fact that each and every one of us is fallible and bound to err every so often, and to strive, of course, to use better judgment and greater accuracy in our work. Emotional storms over the correction of inevitable errors are not only a waste of time, but also an unnecessary strain on the patience and nervous systems of those with or under whom we work.

Farm Credit Club

FCA in Kansas City has a Farm Credit Club which is a sort of combination USDA Club and Welfare Association. We visited it when passing through recently. Its president, Julia D. Connor, proudly escorted us to its clubroom where, of all things, we found not only Edwy Reid, but Keith Himebaugh, Bill Ward, and Kendall McClarren. There was a reason for this, but why unveil the mystery?

The clubroom was opened August 23, 1943, and is highly attractive. Games, periodicals, books, candy, and soft drinks contribute to its popularity. You'll find a picture of it on the club's Grapevine, issue of June 27. That issue constitutes its annual report. We suggest that those in other agencies who are interested in employee activities get hold of this little magazine. It is full of crack ideas on how to handle such things.

The following committees all report lively activities within their own fields: Contacts, music, dramatics, library, athletics, welfare, social, war service, educational, and employee health. Attention is also given to movies, bridge, women's speakers, creative writing, art appreciation, ballroom dancing, knitting, hobbies, and all other activities in which any USDA employee is likely to engage.

Club dues are only $1 a year. The detailed financial statement is compact and revealing. These people really know how to make a club work. Maybe some of you would like to get in touch with Secretary Katherine Delany, FCA, Kansas City, Mo., and ask some questions.

Crop Insurance liquidation

LIQUIDATION of FCIC continues as provided by legislation. No crops were insured this year. Funds appropriated for the 1944 and 1945 fiscal years have been for liquidating insurance on 1943 and earlier crops. Of the four branch offices, one (Denver) has already been closed. Total personnel has been reduced from about 470 a year ago to 145.

While liquidation of the current program is under way, proposals have been made in Congress for a revised crop insurance plan. So far none of this legislation has been enacted.

USDA Clubs

AT THE final Training Council meeting of the fiscal year the USDA Clubs got their innings. Principal speakers were Director T. Roy Reid of Pers., Director of Finance W. A. Jump, and the Hon. Grover B. Hill, Under Secretary and First Assistant War Food Administrator. They formed an admirable symposium, the first covering the need for and present status of the clubs, the second their history, and the third their value to Department personnel in Washington who wish to contact field nerve centers.

There are now 79 USDA clubs in 39 States and Puerto Rico. They usually meet monthly, often at luncheon, sometimes at dinner, or even without the provocation of a meal! Participation is voluntary and dues are nominal. But the lively interest shown in the clubs reflects their value. They help unify the USDA-WFA and likewise form an admirable channel of communication effective both ways, from field to Washington and Washington to field. If interested in forming a USDA Club in your vicinity, write to Mrs. Violet R. Tulloch, of Pers., in Washington. Some say clubs already exist about everywhere they could be formed. Do you think that is true?

Scientific dividends

PENICILLIN research offers exceedingly interesting illustrations of how science works out problems. In the first place it was found over 40 years ago that some microorganisms produced substances that would kill some germs. Then, in 1929, Dr. Alexander Fleming, St. Mary's Hospital, London, was growing a disease-producing germ called *Staphylococcus aureus*. Quite by chance the spore of a mold lodged in a dish wherein he was cultivating the germ and it stopped the germ's growth.

This accident happened, however, to the right person—a trained, alert scientist with laboratory facilities at hand. He immediately sensed its importance. The mold concerned proved to be *Penicillium notatum*, a common mold that may occur on bread, cheese, or other food products. So he named the material which was produced by the mold and killed the germ—"penicillin." He suggested it might have medicinal value if it could be produced in big lots.

Thereupon Prof. Harold Raistrick, of the London School of Hygiene and Tropical Medicine, undertook mass production of penicillin. He had some success, got some insight into the substance's chemical nature, but could not persuade his colleagues to run clinical tests.

However, yields were small and stability was poor, so the work was published in 1932 and Professor Raistrick turned aside from it.

Then came bombs

Seven years later Dr. H. W. Florey, an Oxford University pathologist, and a group of his associates became interested in penicillin. Spurred on by war conditions this brave group managed to produce enough of the substance to test it clinically. The tests were promising but the bombs began to fall and more extensive work could not be carried on in England.

Accordingly American help was asked. That brought Dr. Charles Thom, then principal mycologist of USDA, into the picture. He knew that he and other Department scientists had for years worked industriously and painstakingly on yeasts, molds, and other microorganisms. He knew that AIC's Northern Regional Research Laboratory at Peoria probably had the best collection of *Penicillia* that existed anywhere.

That work may never have seemed of paramount importance to laymen, but it came to the fore in a big way. Indeed some people even questioned the value of the big, expensive regional research laboratories. But it was a mighty good thing we had this institution and its mold laboratory in stock.

The upshot was that important discoveries were made, under the direction of Dr. Robert D. Coghill, in charge of the Fermentation Division. Many species of the mold were already at hand for test, for they had been carefully nurtured for years by almost pious scientists. The best could easily be selected. Then Dr. A. J. Moyer, of the laboratory, found that the addition of corn steep liquor—a by-product of the corn wet-milling process—to the medium on which the mold grew increased the yield of penicillin tenfold.

Yield up, cost down

Through strain selection and the use of the corn steep liquor and lactose (milk-sugar) yields finally went up a hundredfold. Trained workers, good equipment, and an excellent mold collection combined to produce that happy result. Don't ever think it doesn't pay to have pools of scientific knowledge always in stock.

As yields increased, production increased and prices declined. More than 200 new strains of the mold have been isolated and tested—some of them the best yet—and a new one that would increase yields by one-half would be cheap at a million dollars. It will soon be possible to manufacture 9 pounds of this very important drug daily in 20 million dollars' worth of new plants. This will treat 250,000 serious cases a month.

Originally penicillin, priced at less than cost, was $20 per 100,000 units. Recently it has been $3.25, an 84 percent price reduction. Lower prices are in the offing. Try to figure the value of this to the war effort and to human life. Ask yourself, has the Northern Regional Research Laboratory been worth what was spent on it? Isn't it probable that this work alone foots the bills for all four of the laboratories for the first decade of their existence?

City farm boys

APPARENTLY big newspapers in the metropolis hire farm boys and farm boys never wholly forget their excellent origin. They watch the paper's text, captions, and headlines like hawks to correct errors in the treatment of rural matters. To wit, read the following on "Weeding the Captions" from the New York Herald Tribune of July 3:

> Every newspaper staff includes one or more farmers who watch, with bucolic eye, for the agricultural blunders of their city-bred fellow workers. The New York Herald Tribune published in Saturday's city edition a picture of British tanks moving through a Normandy field of grain which the caption writer identified as a corn field. In the late city edition, the corn had been harvested from the caption, and the tanks were located merely in a field. The next day, the New York Times had the same tanks in the same corn field in the first edition, in a grain field in subsequent editions. Reason for the error is that to the British all grains are corn, except corn, which is maize.

So little time

THE man on the radio just remarked that in the old days people had plenty of leisure; today they have no time for anything. Yet, possibly, if we could visit those long-ago people we should find that they regarded themselves as very busy. As Wilford Porter, Ext., put it once, we are all like Egyptian mummies, pressed for time.

Actually we have time to do everything we really want to do and we see to it that we do those things. A top-kick USDA official was heard to say not long since: "If I get any busier I'll have to cut my time for reading, but so far I've managed." He does manage, too. His reading is a regular part of his life. He talks interestingly and intelligently about what he reads, too, does Grover Hill. If he can make time for reading, all of us can, *who want to read.*

The editor once worked for a private firm in the city of Detroit. A number of laboratory and clerical people hung around endlessly after hours. Finally up went a sign: "Our hours are from 8 to 5 with an hour for lunch. The firm gives you a good 8 hours of work daily. It expects only that much from you. If you cannot finish your work in 8 hours see your supervisor for relief. It is possible you may be inefficient or even incompetent. We want you to leave office and laboratory at 5."

This is not set up as a generalization. It is one firm's or one man's view. But there is a thought here. However, you can put it down as a fact that every human being has time to do what he or she most wants to do. If time lacks they make time. The man you see reading a book in the cafeteria queue wants to read and he makes time to do so. It may be Palmer Smith, the capable editor of the Clip Sheet, issued in Inf. What we most need is to raise our sights so as to want to do the most important and useful things, war or peace.

Office of Price

PRICE is a mere youngster among USDA-WFA agencies. It was born January 21, 1944. The War Food Administrator brought it into being to supervise all WFA functions relating to approval of maximum prices to be fixed for agricultural commodities or products, or concerning price-support programs for specific commodities.

The Director of Price prepares or reviews recommendations covering price-supported commodities and the levels and methods of providing such support. He works closely with OPA and the Office of Economic Stabilization. The functions of Price, however, neither replace nor duplicate the work of any WFA operating agencies.

The latter initiate price-support recommendations and develop programs, carrying on informal negotiations with OPA. But Price serves as a central point for the consideration of general policy and the correlation of the work of the operating agencies in this field. A Price Review Committee, consisting of one member from each WFA agency concerned with price-support or price-stabilization activities, has been established to assist the Director. Agencies submit their recommendations to Price through their committee representatives. Conflicts are here resolved.

Wartime prices

In wartime, prices are most important in influencing farmers to produce required commodities and to shift production from nonessentials to essentials. Price policy must be such as to encourage such shifts. Pre-war interest in raising

the level of prices received by farmers to increase their income is secondary.

Price works within the framework set by the President's stabilization program, the Emergency Price Control Act, and the statutory requirements governing support prices for agricultural commodities. All OPA regulations establishing maximum prices for agricultural commodities are submitted to WFA for approval. WFA is legally required to make loans to producers of particular basic commodities at specified rates. It must also support prices of nonbasic commodities when public proclamation has been issued requesting farmers to increase production thereof for war purposes. In addition, other commodities are supported when war needs require such action.

The work of Price is complicated and difficult. Its staff is small. H. B. Boyd is Director.

Cooperative research

DR. H. K. Wilson, of the Minnesota Agricultural Experiment Station, recently gave (in Science, June 23) an excellent account of how research in agronomy, carried on jointly by USDA and the State agricultural experiment stations, has helped the Corn Belt and Great Plains regions. The close relationship between USDA and the stations was stressed.

Cooperative wheat research with Minnesota began in 1907. Black stem rust then threatened the extinction of wheat growing in many sections of the hard red spring-wheat area. But cooperatively developed Thatcher saved the day. In 1941, 18 million acres of it were grown. The president of the National Millers Federation, which organization always helped this project as it could, says: "Thatcher wheat was a Godsend to the Northwest."

F. D. Richey, once BPI chief, was a leader in early cooperative research on corn. About 1926, an enlarged cooperative corn improvement program was outlined under the Purnell Act. It is estimated that as the result of coordinated cooperative research hybrid corn increased the yield by more than 650,000,000 bushels in 1943.

Not long ago waxy corn was a genetic curiosity. Now starch from a new variety, Waxy Iowa Hybrid 939, developed cooperatively by USDA and the Iowa station, appears to be a wholly satisfactory substitute for tapioca. Since we had been importing about 350,000,000 pounds of tapioca annually from the Dutch East Indies, you can see what that will mean. By 1945 we should be able to supply our own food and adhesive needs.

Oats, flax, et al

Crossing Victoria with Richland resulted in high-yielding, strong-strawed varieties of oats, resistant to both black stem and crown rusts and to smuts. Varieties from this cross developed in cooperation with the Iowa, Wisconsin, South Dakota, and Nebraska stations are now growing on most of the acreage in these States. The development of productive smooth-awn barley varieties had meanwhile given impetus to barley production.

Crystal and Koto flaxes, developed by USDA in cooperation with the Minnesota and the North Dakota stations, have better disease resistance, give higher yields, and produce a higher percentage of oil of superior drying quality as compared with older varieties. Sorghum varieties with waxy starch offer great possibilities in the matter of providing the food industry with a substitute for cassava starch.

USDA and State research has had much to do with increasing our soybean production 1,400 percent in the decade ending in 1942. It has accelerated the movement of alfalfa into the North Central States. Ladak, a winter-hardy alfalfa brought by USDA workers from India, is fairly resistant to wilt and has proved more persistent than Grimm in Minnesota.

The USDA has worked with several stations in improving red clover and in introducing and distributing crested wheat grass. It has aided also in the development of smooth brome and reed canary grasses. It has developed a cooperative attack on the control of bindweed and other noxious weeds. In all these instances long-time research projects have paid out well.

Brief but important

Good News.—This is the title of a chatty and interesting news letter prepared in Cincinnati for the FSA Region 7 folks who are in the armed services. The issue which landed on our editorial desk had 8 pages of news. Like other news letters for USDA people in the service, it is prepared at no cost to the Government.

They sweat: Marvin E. Sogard, FSA Supervisor, wrote in from Charles City, Iowa, to say that he did take a vacation on a farm, sweat it out, found enjoyable relief, earned $44, and expected to use the same method to get Fifth War Loan Bonds. He sent pictures of the "cat" and 21-inch disk with which he covered 100 acres of one owner's 640 only a week before he wrote.

Erosion control.—T. B. 860, issued April 1944, on "Investigations in Erosion Control and the Reclamation of Eroded Land at the Palouse Conservation Experiment Station, Pullman, Wash., 1931–42," went out to SCS regional conservators and principal officers in Washington, accompanied by a letter from H. H. Bennett. This stressed SCS's set policy of getting research results quickly applied to the land. Said Bennett: "Above all, we don't want to pigeonhole any of our findings or to be satisfied with just publishing bulletins and papers about them. This is an agency for working on the land, not one for just printing things advising people what to do." That's the spirit!

Plowman's Folly refuted: If this book interests you, read the article in Harper's Magazine for July by Emil Truog, head of the Soils Department of Wisconsin College of Agriculture and originator of the Truog soil tests, in collaboration with Walter Byers of the Madison U. P. Bureau.

Cleary elected.—Francis J. P. Cleary, Inf., was elected employee representative on the Board of Review on Efficiency Ratings. Miss Estevah E. Webb, FSA, is alternate. (See May 13 *USDA* for item on this board.)

August 7, 1944 **Vol. III, No. 16**

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USDA

FOR AUGUST 21, 1944

EPQ celebrates 90 years

IN *USDA* for June 12, BAI bragged about reaching the ripe old age of 60—justly proud of being our oldest chartered scientific Bureau. Now comes EPQ, pointing with pride to its own hoary pedigree of 90 years. EPQ's brag is its common ancestry with the Department that long ago. For EPQ harks back to 1854, when English-born Townend Glover was appointed in the old Division of Agriculture, under the Commissioner of Patents, as an "expert for collecting statistics and other information on seeds, fruit, and insects in the U.S." Since that time, organized Federal entomology has made giant strides until now it includes 365 scientists, working in over 450 field stations and research laboratories throughout the United States, Puerto Rico, Hawaii, Alaska, Canal Zone, and in other countries on special missions.

C. V. Riley, who succeeded Glover as head of the Division of Entomology in 1878, imported from Australia the ladybird, or Vedalia beetle, to save the California citrus fruit industry from destruction. L. O. Howard, who succeeded Riley in 1878 and served as Chief of the Bureau of Entomology until October 15, 1927, became famous as an author of popular books on insects, starting a world crusade against the housefly and other insect menaces (see *USDA* March 18).

Dr. C. L. Marlatt, who succeeded Dr. Howard as Chief of the Bureau, was principally responsible for enactment of the Plant Quarantine Act of 1912, after years of effort. The present Chief, Dr. P. N. Annand, heads up many combined activities, including work of the former Federal Horticultural Board, enforcement of the Plant Quarantine Act of 1912, certain plant-disease control activities, and chemical work on insecticides and fungicides.

Generations of service

In its 90 years, the entomological work has been stupendously valuable to American agriculture and food production. Covering the entire field of protecting crops from destructive insects and encouraging useful insects like the honeybee, its work has had such practical value that since 1930 alone 129 patents have been issued to Bureau workers. Approximately one-fifth of these patents are in commercial use.

EPQ's research, combined with that of industry, has helped found great oil-emulsion and insecticide industries. The most effective and commonly used insecticide formulas and mixtures which annually save farmers millions of dollars in protected crops were developed by EPQ, as well as new methods of applying insecticides, such as the "aerosol-bomb" used by the Army, airplane dusting, the vapor-heat method of sterilizing fruit, and vacuum fumigation for cotton. Current tests of wartime insecticides for agricultural purposes, particularly DDT, are expected to lead to new remedies that will save millions of dollars in crop losses after the war.

EPQ is the enforcement agency responsible to the Secretary for domestic and foreign plant quarantine regulations to prevent the spread of insect outbreaks from one State to another and bar the entry of foreign insects into the United States, every year stopping an average of 50,000 foreign insects from entering this country.

Recent achievements

Among its more recent accomplishments are: Measures to prevent widespread grasshopper outbreaks such as those in 1936, costing farmers 100 million dollars in crop losses in a single year; use of the "milky disease" spore dust to kill Japanese beetles; Smear 62 for screwworm control, protecting livestock; new crop-protection methods which return farmers from $15 to $40 for every $1 spent; and development of insect-resistant varieties of grains, in cooperation with PISAE and the State experiment stations, to protect crops against pests causing average annual losses totaling more than 100 million dollars.

With State and local cooperation, EPQ makes annual pest surveys to locate danger spots and weekly insect surveys, and reports to the insecticide trade on pests controlled by the war-allocated insecticides, particularly pyrethrum and rotenone. This enables short supplies of insecticides to be distributed to the farmers and victory gardeners who need them most.

To protect our fighting men abroad against disease-bearing insects, EPQ developed and gave to the Army the super louse powder and fly spray, DDT, as well as the "aerosol bomb," which has saved thousands of lives. Its insecticides and fumigants have helped make Victory Gardens successful. It is waging constant war against insects, mites, and ticks that occasion an annual loss estimated at 3 billion dollars, much of it preventable. As a result of extensive experiments on agricultural uses of DDT, aerosols and smokes, development of aircraft spraying, synergists, and insecticide concentrates, and new methods of preventing insect outbreaks, as well as assuring farmers adequate supplies of required insecticides, EPQ expects to radically reduce post-war crop losses due to insects.

This Bureau stands between us and potential harm from over 80,000 different species of insects of unpleasant or injurious habits and dubious character. More power to it!

Some figures

THE Department came into existence May 15, 1862. Between July 1, 1862, and January 1, 1863, there was expended by it the sum of $34,324.02, leaving an unexpended balance for the remainder of the fiscal year of $45,675.98. The Commissioner of Agriculture asked the Congress to grant him $130,000 for the fiscal year ended June 30, 1864, "which is deemed a low estimate." He got $95,000. So much for "in the beginning."

We now turn somewhat abruptly to the Agricultural Appropriation Act of 1945, approved June 28, 1944. Appropriations and reappropriations for the 1945 fiscal year total $734,428,628, a *decrease* of $321,113,290 compared with 1944. (If anyone wonders why Department appropriations have grown so in recent years, they may consult our *USDA* mimeograph No. 8. Abridged List of Federal Laws Applicable to Agriculture.) In addition, the Department is authorized to borrow from the RFC $67,500,000 for FSA rural-rehabilitation loans, as in 1944; $15 million for farm-tenancy loans, one-half 1944; and $25 million for REA loans, an increase of $5 million over 1944.

The act also includes $30,700,000 to enable the WFA to perform its functions

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as prescribed in various Executive orders. It specifically authorizes the use of not to exceed $50,000,000 to continue a school lunch and milk program, as well as $5,420,000 for the emergency rubber project. While total funds available to AAA are reduced, funds for AAA soil-conservation and soil-building practice payments are increased. SCS funds are increased also to expand soil-conservation activities, research and regulatory activities are at about the same level as in 1944, and no significant changes were made in direct appropriations for the staff agencies.

The Act carries language prohibiting the payment of salaries and other expenses to employees convicted of violating the Hatch Act, or who have been found to have violated or attempted to violate the Anti-Lobbying Act, or who have demanded that a farmer join the AAA program as a condition of draft deferment or to gain a priority certificate.

The earth brought forth

RECENTLY prizes have been offered for the largest products raised by victory gardeners. Sometimes these have been war bonds. But have any of us done better in modern times than good old California did in 1851? It is to be doubted, if we can believe what we see in Part II, on agriculture, of the report of the U. S. Commissioner of Patents dated April 23, 1852.

The second item in this report purports to be part of an address delivered by one A. Williams, Esq., on presenting a silver goblet to a Mr. Horner as a premium for the best vegetables and grains on exhibit in the San Francisco exposition hall where the talk was delivered. Mr. Williams apparently assumed his best chamber of commerce manner and the eloquence waxed forth.

He began by extolling the great natural wealth of California, its gigantic trees, luxurious forests, and beautiful gardens. Then he mentioned holding in his hand a statement signed by 12 citizens of Santa Cruz County. These he named. The statement declared that, on land owned and cultivated by Mr. John Williams, an onion grew to the enormous weight of 21 pounds; and a turnip "was grown which equalled exactly in size the top of a flour barrel."

California, here I come!

On land of Thomas Fallen a cabbage grew which measured 13 feet 6 inches while growing, and his cereal grains attained heights of from 6 to 12 feet. Mr. Williams continued fervently:

Added to these astonishing productions is a beet, grown by Mr. Isaac Brannan, at San José, weighing 63 pounds; carrots, 3 feet in length, weighing 40 pounds. At Stockton a turnip weighed 100 pounds. In the latter city, at a dinner for 12 persons, of a single potato, larger than the size of an ordinary hat, all partook, leaving at least the half untouched. These may be superlatives, but they do exist, and they show what our soil and climate are capable of producing.

After this faint touch of modesty the speaker mentioned that before him he saw an exhibit of Shelton's mammoth clover with stalks 6 feet tall and half an inch in diameter, and clover heads 5 inches in circumference, all springing from one root and covering 81 square feet. Barley ran 150 to 200 stalks per root; oats stood 13 feet tall; a red sugar beet grown by L. M. Beard of San José was 28 inches in circumference and weighed 47 pounds. Others only 2 months old from the garden of Alderman Green weighed 6 and 7 pounds.

Gigantic!

A cabbage from H. Bolmer's ranch near San José measured 7 feet in circumference and weighed 56 pounds. There were cucumbers 18 inches long, onions cultivated by Smith and Broder and contributed by Chamberlain and Musser which weighed 3 or 4 pounds and were 5 to 7 inches in diameter. They yielded 70,000 pounds per acre. B. J. Stevens, of Santa Clara, had on exhibit a potato 13 inches long, 27 in circumference, and weighing 7½ pounds.

Barley was there which had yielded 200 bushels per acre. The walls were festooned with grapes which ran 10 pounds to the bunch. There were tomatoes weighing 2 pounds each, pumpkins weighing from 100 to 140 pounds, and many other vegetables of enormous size. Prize-winner Horner had produced crops worth $200,000 on 800 acres in Santa Clara Valley, aided by 60 laborers, at a cost of $50,000. So there were farm factories then and look at the profits!

Mr. Williams concluded in a burst of eloquence that California was the "bright particular star in the constellation of States, the crowning gem in the tiara of freedom." Thomas Ewbank, who was then Commissioner of Patents, gave no indication that he had his tongue in his cheek when he printed this material. Undoubtedly Californians of the present will have no difficulty in believing it either.

Less rationed farm machinery: WFA announced that, beginning July 20, 19 types of farm machinery and equipment are rationed, as against 31 before. Details are in press release 2702–44. Ask Press Service (phone 6114).

Note takers

FOR many long years now, man and boy, we seem to have been surrounded by note takers. At every conference and while hearing every speaker, we have seen all about us the fluttering leaves of notebooks and the scampering vivacity of many recording pencils. What becomes of all those items so hurriedly embalmed and interred between notebook covers? Are they all ever really exhumed and put to use?

The chronic note taker begins early. He, and more especially she, is sometimes to be met in grammar school, nearly always in high school, and invariably in colleges and universities. The habit may be a form of compensatory activity. It symbolizes the fact that the note taker is attentive and impressed by what is being said * * * or does it? Are the professor and the speaker always favorably impressed?

How many conferences have you attended where the notebooks fluttered? How much was there really worth recording at each? After names, dates, places, and events have been correctly recorded, what else is needed? Unless a cue word or phrase here and there will jog your memory into the process of re-creation, you will have for your pains only a lifeless account. For that is all that can be reproduced from lavish notes about trivia. Moreover, we all speak inaccurately. What is written or printed is more reliable and better note material.

So maybe we're wrong? Maybe the taking of notes is a lofty and useful enterprise? Want to argue? We should be happy to hear from you.

Cotton linters at war

COTTON linters are a little known crop of tremendous war value. The highest grade powder for propelling projectiles, mattresses for soldiers to sleep on, parachutes to ease fliers safely to the ground, surgical dressings, etc.—all are made from cotton linters.

So little was known about the source and preparation of linters during the first World War that at the Armistice more than 400,000 bales of 650 pounds each, produced under orders of the War Industries Board, were found to be useless. The cellulose content of the whole was little more than 50 percent.

The experiences of that war led to a demand that the subject be studied. In 1924 G. S. Meloy, now Chief of the OD Cotton Linters and Cottonseed Section, was given the job. In 1925 Meloy proposed seven grades for linters, three of

which were designed primarily to cover the qualities needed for war purposes. These grades became the official U. S. standards on August 1, 1926.

Better linters now

During the season of 1942–43 the entire crop of linters was requisitioned by the War Production Board, which at the same time asked each producing mill to send samples weekly to Mr. Meloy for advice on their suitability for war purposes and improvement of quality. Result: Out of a 1 355 800-bale crop, only 16,000 bales were rejected and the entire crop averaged 73.7 percent cellulose.

Data are not yet available for the 1943–44 season but the same procedure was followed. On July 1, the largest consumer powder manufacturer wrote the Department: "We are getting more cellulose than ever before."

B & F, Pers., take a bow!

LOOK back on page 4, *USDA* for July 10. You will find an article on better management. The article wound up with a couple of paragraphs on our new Guide to Better Management for which B & F and Pers. were primarily responsible. These booklets were sent out both inside and outside the Department, in Government circles, that is.

The response was flattering. Most important agencies which wrote back in highly commendatory language were the White House, the Bureau of the Budget in the Executive Office of the President, and the Civil Service Commission. The Department has reason to be proud of its achievement.

Said Guy Moffett, White House Consultant for the Office for Personnel Management: *"Your booklet * * * is in my judgment an excellent document* and shows that someone in your Department has given a lot of thought to this whole subject of management and personnel utilization."

Are we good?

Said Donald C. Stone, Assistant Director in Charge of Administrative Management, Bureau of the Budget: *"I believe the Department* (of *Agriculture*) *takes first place among all the Federal agencies in the specific things it has done to try to deal with problems which the management appraisal bulletin might have suggested."* He asked for a dozen copies of the Guide to Better Management and went on: "You have done a very good job in putting together a stimulating document for internal use, and it will be very helpful to us here."

Said Civil Service Commissioner Arthur S. Flemming: *"The Commission's staff is finding your manual to be a very useful one in our own internal program and in our work with other Federal agencies.* Copies have been sent to each of our regional directors for their use in making field personnel utilization surveys. * * * Please keep us informed of your progress in order that we may make the results of your experience with this program available to other Federal agencies."

This is just swell. Line up, B & F and Pers., and take a bow!

DDT

THE story is told of a marvelous cure-all which a man took for his liver complaint. It worked fine. It not only cured him but, 40 years later, when he succumbed to some other disease, the undertaker had to beat his liver to death with a club before burying him. So some things get a reputation for being panaceas.

That's the way with DDT, the much publicized louse powder, fly spray, and good for what-is-it. But DDT is no universal insecticide, effective for all agricultural purposes. At least that isn't proved yet. DDT has limitations to which Dr. P. N. Annand, Chief of EPQ, calls attention. Tests of it are still in the preliminary stages. It looks great for the future so far, but much work remains to be done.

Tests are now being conducted in a number of laboratories with the small quantities available. They tend so far to indicate that DDT is one of the most effective agents known against the gypsy moth, which defoliates and kills trees in much of New England, and against that notorious orchard pest, the codling moth.

What we don't know

But DDT has been found harmful to some plants. Is it to others? It may endanger some livestock, wild animals, birds, fish, or beneficial insects like the honeybee. Its crystals persist a long time after spraying; might they have some cumulative ill effect on human beings? What mixtures, spreaders, diluents, and stickers are best to use with it?

In what combinations can it be used with other insecticides? How can it best be used to control pests at lowest costs? How can it best be prepared for different types of application? What is its efficiency for each insect, relative to other insecticides? Much must be learned before we have mastered DDT's place in agriculture. To learn such things is one of the reasons why we have a Bureau like EPQ.

Dr. Zon retires

RAPHAEL ZON, Director of the FS Lake States Forest and Range Experiment Station, at St. Paul, Minn., retires this month after 43 years' service.

Born in Russia in 1874, Dr. Zon studied at the Imperial University of Kazan, where Lenin was a fellow student, University of Brussels, and University of London, and came to the United States in 1898 as a penniless emigrant. He graduated from the Cornell School of Forestry in 1901 and entered the Department's old Bureau of Forestry as a student assistant that year. He became one of the earliest pioneers in forest research in this country. When the first forest experiment station was established at Flagstaff, Ariz., Dr. Zon not only planned the work but helped to shingle the roof and dig the road to the main highway. He also pioneered in studies of the relation of forests, streamflow, and flood control, helping to lay the scientific groundwork for much that has since been accomplished in erosion and flood-control work and shelterbelt planting.

Dr. Zon is the author of more than 200 scientific publications, many of which have been translated into Russian, French, Japanese, and German. He was a founder and the first managing editor of the Journal of Forestry. In 1940 he was named one of 600 foreign-born U. S. citizens who in the past 100 years were considered to have made the greatest contributions to American democracy.

Other FS station changes

The Lake States Station is one of 12 FS forest and range experiment stations. Elwood L. Demmon, since 1928 Director of the Southern Station at New Orleans, La., succeeds Dr. Zon. Charles A. Connaughton, since 1938 Director of the Rocky Mountain Station at Fort Collins, Colo., becomes director of the Southern Station. Dr. Irvine T. Haig, FS research man recently back from Chile—where he headed a forest mission sent at the request of the Chilean Government to study that country's forests—becomes Director of the Appalachian Station at Asheville, N. C., to succeed Richard E. McArdle. Mr. McArdle is now assistant chief in charge of the FS Division of State and Private Cooperation in Washington.

School lunches

THE schoolboy cry, "No more pencils, no more books, no more teachers' ugly looks," had scarcely died away this summer before plans were started for a school lunch program for this fall. Congress had okayed the $50,000,000 appropriation for OD's continuation of assistance to this program. That's all OD was waiting for.

The basic objective of the program is to promote better nutrition for the Nation's children. In this sense it fits into the Department's over-all interest in nutrition, and studies are made from time to time to see that this purpose is accomplished. At the same time, the school lunch provides an outlet for foods that are temporarily abundant locally and aids American farmers in a long-time development of better domestic markets for their products.

The coming school term marks a decade in the school lunch program, which began in 1935 and was at its peak in 1942 when school lunches were provided for 6 million children in 93,000 schools. In the beginning a handy outlet for surplus foods to provide immediate relief to farmers, the program now places increasing emphasis on better nutrition for the country's children.

Local groups cooperate

OD's role in the program is not that of a fairy godmother or Santa Claus, but one of helping local communities to help themselves. Community organizations decide whether they want and need a school lunch program, and a local sponsor applies to OD for help. This sponsor may be the school board, parent-teacher association, a civic group, or any other nonprofit, interested organization. The local sponsor frequently works through a community school lunch committee.

This committee is responsible for the plans and the operation of these lunches, and is reimbursed for expenditures for foods up to a certain amount, the amount depending upon the type and number of meals served and the needs of the school for this program. These lunches, however, must meet certain established standards for a nutritious school lunch. OD lets them know when surplus products are available and they, in turn, indicate the amounts they can use. In this way, surplus products which might otherwise be wasted are built into good, nutritious meals for school children.

Use V-mail by preference. This is important.

Brief but important

Penalty mail: Under date of June 26, J. H. McCormick, Executive Assistant to the Director of Information, issued a letter on this subject. It explains all about the new penalty mail rules, covering air mail, foreign mail, registered mail, and so on. Incidentally, it says: "The use of penalty envelopes for sending personal letters under postage or for carrying material home for study at night must be discontinued." *If interested, apply through your own agency channels for a look at this letter.*

Mimeograph No. 9: This mimeograph gives brief biographies of all persons in charge of Federal aid to agriculture since 1839—Commissioners of Patents, Superintendents of the Agricultural Division, Commissioners of Agriculture, and Secretaries of Agriculture. This also is issued experimentally in limited quantity. Ask for just what you absolutely need of this and our other mimeographs (*USDA* July 24). If any prove popular enough, they may be issued in larger runs later.

Correction: Though a dozen or more Department people O. K.'d the item, Dr. Bomberger dies, in June 12 *USDA*, an error crept in! The Baltimore Bank for Cooperatives is *not* a branch of the Federal Land Bank. In each of the 12 U. S. farm credit districts there are a Federal Land Bank, Bank for Cooperatives, Federal Intermediate Credit Bank, and Production Credit Corporation. Each of these institutions is on a par with the others.

"Paradoctor": Time for July 10 reported that after a bomber crash near the Continental Divide in Colorado, in which 4 of the 10-man crew were killed, a paradoctor dropped a parachute load of supplies and then parachuted down himself to treat the injured survivors until they were rescued some hours later. The doctor was Lt. Amos Little, of the Army Air Forces, who learned to parachute at the FS Parachute Training Center at Seeley Lake, Mont. Army men and Coast Guard rescue squads, as well as FS "smoke jumpers" who "hit the silk" to fight forest fires, have been trained at this school. FS pioneered in developing the technique for parachute jumping in rough or timbered country.

Why not send this copy of *USDA* to a Department man or woman in the armed forces?

W. G. Meal dies: William G. Meal, Chief of the OD Fruit and Vegetable Branch, died on July 16. He had been ill for several months. Mr. Meal entered the Government service in BAE in 1929 and had been with the Department since except for two years with the New Jersey extension service. Before entering the Department, he served as county agent in New York State and taught at Cornell. E. A. Meyer is now Chief of the Branch.

Personnel memos: P–459, July 14, says the Veterans' Preference Act of 1944, Public Law 359, gives preference to certain honorably discharged veterans, their widows, and wives of disabled veterans who themselves are not qualified. * * * P–457, July 11, says Civil Service has sent to GPO, for printing, a booklet—Your Retirement System. Copies will be available later through personnel offices * * * P–458, July 11, reprints a release from the Public Health Service, Health and Comfort During Hot Weather.

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USDA

FOR SEPTEMBER 4, 1944

Bureau of Agricultural Economics

COLLECTION, analysis, and publication of a wide variety of facts about agriculture constitute the work of BAE, the central statistical and economic research agency of USDA. Much of our national agricultural policy is based on this vast complexity of agricultural research and analysis.

BAE is, in a sense, one of the oldest Department agencies. For its work stems in part from the Division of Statistics, created in 1863. The Division was designated the Bureau of Statistics and Crop Estimates in 1913, and the Bureau of Crop Estimates in 1914. Meanwhile, the Office of Markets, established in 1913, was combined in 1915 with the Rural Organization Service to form the Office of Markets and Rural Organization, designated the Bureau of Markets in 1917.

In 1905 an Office of Farm Management was set up in old BPI. It became a separate Office under the Secretary in 1915. In 1919 it was named the Office of Farm Management and Farm Economics and, in 1920, became an independent Department office by statute. At first it studied farm practices, but in 1910 it began to emphasize agricultural economics.

Much of this work thus began in the administration of Secretary James Wilson, though greater impetus was given the social sciences by his successor, David F. Houston, who thoroughly reorganized the Department. On July 1, 1921, the Bureaus of Markets and of Crop Estimates were consolidated. Thus central administrative control was placed over the fields of commodity statistics, marketing data and regulation, and cost and farm-management studies.

In 1922 the Office of Farm Management and Farm Economics was merged with the other two to form the Bureau of Agricultural Economics. The subsequent internal changes will not be discussed here. In 1938 BAE became the general agricultural program planning and economic research service for USDA. Today, as a staff agency, it serves both USDA and WFA, as needed, and prepares for them countless series of data, analyses, and reports.

Wartime services

National and State estimates and reports of many kinds, including monthly crop reports, are collected, compiled, and published by the Bureau. From reports sent in by over 400,000 volunteer crop reporters—farmers, local merchants, and processors—it obtains data and estimates of acreage, yield, production, farm utilization, and sales of more than 100 crops; milk and egg production and consumption; prices received and paid by farmers at local markets; wages and employment of farm labor; and current data on the movement, utilization, and stocks of various farm products.

Problems relating mainly to agricultural production capacity, needed production adjustments as background for production goals, and post-war developments in agriculture are the chief concern of BAE these days. For example, a major report on the Nation's top capacity to produce food and fiber is in preparation now. Again, BAE last spring surveyed farmers' production plans for the major crop and livestock enterprises.

In preparation for the establishment of annual farm-production goals, the Bureau compiles—for the use of the national goals committee—data on the production capacity of each commodity for which goals are to be set, as well as summaries of State reports on labor, machinery, fertilizer, and other production factors.

The Interbureau Post-War Planning Committee heads up in BAE and several BAE regional analysts are chairmen of regional post-war planning committees. While all aspects of post-war agriculture are being studied, post-war land settlement developments as they relate to war veterans are now receiving particular attention.

Still another important BAE activity is cooperation with the Census Bureau in planning census work. In preparation for the 1945 Census of Agriculture, BAE has already completed a field test of schedules.

A recent BAE development of importance, to be completed this fall, is the formulation of a master sample—a uniform and highly integrated system for making surveys of various kinds of all farms in the United States. This sample will be in effect a small replica of all the farms in the Nation, designed for better integration of agricultural and sampling research and useful to both USDA and the Census Bureau.

Among many other Bureau activities inspired by war are a current study of significant social-organization changes brought about by the war in 14 rural communities; investigations on the recovery of high-protein feed from alcohol distillation; cooperation in planning for a permanent United Nations organization for food and agriculture; reports pointing to the dangers of inflation in farm land values; and studies of availability of farm labor, disposition of military land, air transportation of perishable commodities, post-war marketing of frozen foods, and insurance for farm workers.

Broad scope

Probably nowhere else in the world is there an agency that performs agricultural economics research with the same degree of comprehensiveness as BAE. Subjects to which its fact finders regularly devote their energies include production, demand and supply, consumption, prices, costs and income, marketing, transportation, labor, agricultural finance, farm management, credit, taxation, land and water utilization, and other aspects of agricultural production and distribution.

Further, BAE studies rural population problems, standards of living, and rural attitudes, and continually determines parity prices, or comparable prices, for agricultural commodities. Its work tends constantly to render the social sciences more exact, to clarify their basic principles, and to put social and economic research findings to work. Here economics is no longer a dismal or a dull science but a highly stimulating and practically valuable instrument.

Radio program participation: Inf. Memorandum No. 71, July 28, says invitations to Department employees to take part in commercially sponsored programs over major networks shall be cleared through Inf. Employees shall not take part in programs endorsing firms or embarrassing the Department.

605502°—44

"T. E."

NOW the man who introduced the editor to cows has retired. That was back in the early twenties when Beltsville Research Center wasn't, but when BAI and BDI had considerable going on out there. The editor was engaged in research on the nutrition of dairy cattle in those days, and Thompson E. Woodward was superintendent of the experimental dairy farm at Beltsville, a job he held for 16 years.

Never shall we forget old "81." For the cows had numbers, and they knew them. If you called "81" out in the yard, she would come to you with that patient bovine condescension so common to cows. Not only that, she would pick out her own stanchion from all those others in the barn and quietly stick her head into it, waiting for you to snap it shut.

Other cows would do that, too. But some didn't like us chemists because we took blood samples from them, as much as a liter at a time, to find out what effect all this milk making had on their blood constituents. We tapped their jugular veins and the more dainty cows objected. But not "81." You didn't need to put a rope around her neck and hoist her head to expose the jugular vein. Like as not she would stick her head up after she got in her stall and say: "Come on, boys; let's get it over with; I want to go out and eat some more." Dear old "81."

Back to Woodward

Now as to "T. E." We found him out there among the cows. He had been farm superintendent since 1913 and it was 1922 when we happened along. He devoted nearly 35 years to Government service, making scientific studies of the breeding, feeding, and management of dairy cattle. He has long been recognized as an authority by progressive dairymen, and his numerous Farmers' Bulletins and popular discussions in farm journals give an excellent example of how the scientist can often best popularize his own findings.

Woodward graduated from the University of Missouri in 1907 and joined up with BAI at Hammond, La., immediately thereafter. Between 1908 and 1911, when he joined the dairy division, which later became BDI, he took post-graduate work and was professor of dairying at Utah Agricultural College.

Woodward's inbreeding experiment with Holsteins, lasting 30 years and completed last year, was one of his outstanding research projects. No other studies have ever been reported in which cattle were inbred so long and with such intensity. He demonstrated that, in skilled hands, inbreeding is a useful method of concentrating and perpetuating the germ plasm of a superior dairy bull.

Other legacies to U. S.

"T. E." also investigated and found useful facts about the effects of incomplete milking on the udder, the relation of the cow's condition at calving time to her milk yield, grazing to increase yields of nutrients and maintain pasture stands, the effect of different methods of storing hay and preserving silage on its carotene content and dry matter losses, and the quantity of grain to be fed profitably to cows of different producing capacities.

His studies of the relationships between feed input and milk output, in cooperation with 10 experiment stations, were basic. His work on silage led to the simplified "wilting method" of making grass silage, widely adopted after this war rendered molasses and other preservatives unavailable. These are just samples of the legacies left to the U. S. by one of our many scientists. We trust "T. E." has fun in retirement and lives long to enjoy it.

Eats

YOU PEOPLE with good appetites may be glad to know that civilians will probably eat as much in 1944 as they did in 1943, and maybe as much as they did in 1941, the all-time record, biggest-eat-ingest year of our history. For then we consumed more food and absorbed more calories than ever before in our history.

Nutritionally we are eating better this year than in 1941, and no mistake. For larger incomes permit us to use more of the relatively expensive foods like dairy products, eggs, meats, and fresh fruits and vegetables. The enrichment of bread and increased use of milk also build our diet up in vitamins and minerals. This fall and winter, supplies of meats and dairy products will become somewhat smaller, those of fresh fruits, vegetables, and cereal products considerably more plentiful.

More fresh fruits and vegetables are also the civilian prospect. Crops of deciduous fruits are all larger than last year, and a record citrus crop is following the record crop of 1943. Only grapes and prunes are a little sour—i. e., are producing smaller crops than last year. But civilian supplies of canned fruits and vegetables will be about the same as in 1943, though less than in 1941 and 1942. However, supplies of some of the more popular items such as canned peaches and tomatoes will be smaller than in 1943. That's why home canners are doubly wise.

We have met the enemy

RESEARCH workers can make these we-have-met-the-enemy reports, too. Here is a classic example: "Studied the brown blight disease of lettuce that threatened to destroy the 25-million-dollar lettuce industry of southeastern California and Arizona. Developed blight-resistant varieties that have controlled this disease."

That report came from the late Ivan C. Jagger (he died in 1939) in response to a request for a report concerning the work that led the Imperial Valley lettuce growers to declare in print that Jagger had saved the industry from ruin. Ivan was a man of few words!

Dr. Jagger, then in BPI, had been sent to the Imperial Valley lettuce district in the early 1920's in response to a frantic appeal from growers. To shorten the period necessary for obtaining disease-resistant strains, he searched cultivated fields of lettuce, seeking for individual plants that showed disease resistance in the midst of infected groups. With the cooperation of growers and State agricultural agencies, a few such plants were finally located and used in developing resistant strains, the first of which was introduced in 1926. By the early 1930's practically the entire district was planted to Jagger's disease-resistant lettuce varieties.

Climate to the rescue

An interesting feature of his work was the manner in which he summoned climate to his aid. His headquarters were at Chula Vista, Calif. The Imperial Valley lettuce fields were some 125 miles inland, where there was more sunshine, lower humidity, and higher temperature. Lettuce was planted in the Valley during September and October and harvested throughout the colder part of the winter, when the early spring made it possible to obtain mature seed from breeding and trial plats in May. This seed was at once planted at Chula Vista, under the comparatively cool climatic conditions there.

Seed of the summer generation, harvested at Chula Vista in September, was planted in the Imperial Valley for the winter generation. This unique situation of two climatic conditions but 125 miles apart, one favorable for winter and the other for summer crops of lettuce seed, made possible two generations a year, thus doubling the speed in breeding new disease-resistant strains.—JOHN A. FERRALL, PISAE.

Editor asks questions

THIS ORGAN of light and learning has now been under the new editorship for approximately a year. Do you like it? Has it changed for better or for worse? Does the use of abbreviations for the agencies—because it takes so much space to write their names out—annoy you? We use the standard abbreviations and symbols provided by the Administrative Council and we printed these in *USDA* for January 22.

Do abbreviations bother you sufficiently for us to sacrifice space by writing out full agency names? Does the absence of pictures bother you? Of course we cannot restore illustrations during wartime, but do you find our crowded, unillustrated, almost marginless pages packed with interest for you anyway? What do we put in to excess? Of what would you like to have more?

Do you mind the editor putting his big mouth in every so often or would you prefer that he "take a powder" and try to be less noticeable? A house organ has to have character and the only character any editor can give it is a bit of his own added to that of the institution of which he forms a part. Will you write in candidly—*right now*—and let us have your knocks and boosts indiscriminately, your faultfindings, your suggestions, and your unvarnished opinions?

Latin American trainee programs

SCS AND EXT. now have Latin American trainees; BAE and REA have had some; BAE and ARA expect to have others before very long. The SCS trainees, carefully selected in their own countries as are all trainees, dribbled in between July 1942 and March 1943. They were farmers, foresters, engineers, and a stray economist. They get actual field training at SCS stations, essentially forming part of field staffs. In about six months they get the rudiments.

After that they must actually make farm plans for soil-erosion control and "sell" them to farmers. They then go to another station for a month or a month and a half, then to another. They also visit the State experiment stations and land-grant colleges and become well acquainted. Finally, they go back to their own countries, after a period of summation in Washington, and reports show they actually do preach and practice erosion control and gain the sympathy of their governments. SCS estimates that having trainees around causes no over-all loss in the productive capacity of their stations, initial losses being more than compensated by later gains.

Good neighbors

Ext. trainees are of two kinds. (1) For farm practice: They spend about 3 weeks in Washington, then 1 week at a State extension office, and then 6 or 7 months as an actual hired man on selected farms where they learn American farm practice what might be called "the hard way," yet usually love it after an initial diffidence about manual labor vanishes—which is soon. They then spend a while around county and State extension offices, return to Washington for summation, and proceed home with a lot better idea about the U. S. A. than they had before. (2) Trainees in extension work: These spend a month or so in Washington for orientation, then 6 months in county extension offices essentially as apprentice assistants to the county agents, then a month in a State extension office, 3 months back in Washington, and home to their native lands. All these trainees learn to fit admirably into their new U. S. environments. Usually they become very popular with local people. Always they get a new slant on the titan of the North.

Dehydrated foods, post-war

A QUAINT tale goes the rounds to the effect that, after World War I, a great deal of dehydrated food made for the armed forces was found excellent—for helping to dry up sidewalks and roadways. Nowadays, however, dehydrated foods are much more tasty, due in no small part to excellent research carried on by ARA. But what will happen after the war?

BAE queried 450 Chicago housewives in the endeavor to find out. The reaction was more favorable to dehydrated food than many manufacturers anticipated, though of course confirmatory studies must be made. The housewives were asked whether they would purchase dehydrated foods if available after the war, which of the foods they would most likely buy, how dehydrated compared with fresh and with canned foods in taste, what advantages and disadvantages dehydrated foods had, and whether they differed materially from fresh foods and canned foods in nutritive value.

The foods covered in the survey included diced and riced white potatoes, sweetpotatoes, beets, carrots, cranberries, milk, and eggs. A large proportion of the housewives did not appear to be definitely prejudiced against dehydrated foods. They were willing to give them their rightful place in competition with fresh, canned, and otherwise processed foods. These findings were frankly contrary to general expectations.

Library sub-branch

THE Department Library was discussed in *USDA* for June 26, and a branch library in the March 18 issue. We turn now to the New Orleans sub-branch, in charge of Miss Dorothy Beckemeyer, at the Southern Regional Research Laboratory, and housed in a big, L-shaped room on its first floor to serve the staff of the lab. It has a collection of some 7,000 books with copious files of relevant periodicals covering chemistry and related fields, and also textiles.

It extended over 4,600 loans from its local book stock last fiscal year, and borrows about 4 books daily from other libraries in order to fill requests. Like the Library as a whole, it can on occasion do a swell job of sleuthing to discover relatively rare items in particular libraries elsewhere, even tracking known offenders who may have failed to return books and then been inducted into the Army without leaving a forwarding address!

Teamwork

The Library in Washington often supplies this and other sub-branches with photoprint copies of articles desired, and this service works fine. The regular routing of periodicals to the laboratory's personnel is another important service rendered. Many scientists cooperate by loaning personally owned books to other members of the staff. Finally, some 2,000 to 4,000 reference questions must be answered annually.

Of course there are a lot of routine duties we haven't space to mention here. Main thing is the sub-branch is popular with the staff; a fine spirit pervades all. Maybe the slogan adopted in planning the regional labs served as inspiration.

It ain't the guns or armament, or the money we can pay,
It's the close cooperation that will make us win the day.
It ain't the individual nor the bureau as a whole,
But the everlastin' teamwork of every bloomin' soul.

Peanut-harvesting machines: Three machines developed by the Department's Tillage Machinery Laboratory at Auburn, Ala., have cut harvesting labor to one-tenth of that usually needed. These machines are a digger made by putting a blade attachment on a cultivator, a digger-shaker that digs, shakes, and windrows the vines, and an adapted combine harvester for picking.

Immigrant makes good

AMONG immigrants to this country who made good must be numbered that part (or genus) of the family *Phasianidae* named *gallus*—chicken to you. Foreign in origin and regarded in Colonial days as an inferior game fowl, chickens later became the source of the farm and housewife's pin money. Today they constitute an enterprise of considerable financial standing.

It is rather overwhelming to know that this chicken industry—eggs and meat—last year ran into gross farm income figures of 2⅔ billion dollars. Some 934 million chickens were raised on farms last year, not to mention 252 million commercial broilers. Placed end to end they would reach farther than you think! They amount to 8 chickens apiece for each of us, or a potful of chicken per family of 5 every 10 days or so.

How did the chicken rise so high in the scale of things? How is it that the poundage of meat produced by chickens equals a third that produced by our beef cattle, more than a quarter of our pork production, or four times our mutton and lamb production? The answer is partly biological efficiency, partly American initiative, and partly research.

Back in the old days chickens lived a lush life of leisure and forage in the jungles of New Guinea, Java, and Malaya. Explorers found them interesting creatures and brought them to various parts of Asia and Europe whence they came to the Western Hemisphere.

Then came research

Where did research come in? BAI did much of it. Their scientists aided poultrymen to obtain or develop better breeding stock, and average egg production per hen ran up from 83 to 113 eggs annually during the past 25 years. Blood lines have already been developed with an annual capacity for producing upwards of 200 eggs per year per hen. During the war the Bureau has sponsored the use of Victory cockerels that are able to increase egg production of the average flocks.

Long-time activity on the disease-control front has yielded big results. An intensive drive has been undertaken to conquer pullorum disease by methods resulting from research. Last year was a record year in testing this disease and much progress was made towards its eradication. Then BAI scientists discovered that one of the sulfa drugs, sulfaguanidine, protects chicks against cecal coccidiosis, a deadly parasitic disease.

A further discovery makes possible the saving of millions of pounds of wet-picked feathers now wasted or used as fertilizer; they can now be preserved to use for filling sleeping bags, pillows, and coat linings and for soundproofing airplanes. Then an ingenious line of scientific research which began in the University of Missouri is giving encouraging results in the "pasteurization" of shell eggs to improve their keeping quality in warm climates. A related field of study, still largely unexplored, is the sterilization of shell eggs to rid them of microorganisms.

No wonder the hen made good. Research backed her up every step of the way onward and upward.

Help wanted

AS FARMERS in many sections of the country go into their peak harvest season during September and October, the call has been sounded for more help on the farm front. Department workers can make no better use of their vacation period than by spending it on the farm, helping to harvest this country's vital war food crop.

In the Washington, D. C., area, for example, apple picking is one of the big jobs facing growers in the Shenandoah Valley during September and October. If there is a demand for extra help in *your* area, the call will come from your county agent or local farm employment office.

Brief but important

Save paper: Present and prospective shortages of wrapping paper and paper bags will be serious unless we all cooperate in saving paper. War needs, of course, come first. A plan for a battleship takes 25 *tons* of blueprint paper. A Signal Corps radio set takes 7 pounds of kraft paper and 3 pounds of book paper. The Army needs shipments of 700,000 different items wrapped or boxed in paper. The Chemical Warfare Service needs over 8,000 *tons* of paper annually for waterproofing overseas shipments.

Information changes: James A. Hyslop, Chief of the EPQ Division of Insect Pest Survey and Information, is retiring after 38 years of service. Mr. Hyslop, who developed the pest-survey method now used in the Department, is succeeded by Gilbert J. Haeussler, formerly in the EPQ Division of Fruit Insect Investigations. * * * Ralph Picard is new Chief of FSA Information Division, coming from Indianapolis, where he was information specialist for FSA Region 3. Ledford H. Day is Assistant Chief. * * * Stanley H. Gaines has transferred from FAR, where he was editor of Agriculture in the Americas, to Department Inf., where he prepares special reports and information on post-war planning. * * * Louis Childers, now Assistant Chief of Inf. Press Service, was formerly in the Division of Publications. * * * James Hasselman, who returned to USDA as Assistant to the Director of Prod., in charge of information, came from the Foreign Economic Administration. * * * Charles D. Jarrett, now in charge of the SCS Current Information Section, came from Portland, Oreg., where he was in charge of information for SCS Region 7.

Fruitfly poison: The Mexican fruitfly is not only a pest below the border, but always threatens to invade the U.S. Hence the USDA constantly maintains a combat mission of scientists in Mexico. Recently USDA's C. C. Plummer, working in Mexico City with the Mexican Secretaría de Agricultura y Fomento, found that tartar emetic, which used to ornament the old-fashioned medicine chest, poisoned Mexican fruitflies. Under laboratory conditions it worked fine—except for the flies.

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USDA

FOR SEPTEMBER 18, 1944

Bureau of Dairy Industry

EARLY in the career of what is now BDI its scientists revolutionized the butter-making industry throughout the world and placed milk pasteurization and hygienic milk control on a firm foundation. The most basic and outstanding work in this country on hydrogen ions was done here, while BDI investigations on cheese, citric and propionic acids, casein, butterfat, undesirable flavors and odors in milk, the physiology of milk secretion, and the breeding and nutrition of dairy cattle are all of deep scientific significance and great practical value.

As a Bureau this agency is a mere youth in its teens. But a Dairy Division was established in BAI nearly 50 years ago, on July 1, 1895, with a chief, an assistant, and two clerks comprising its staff. Its announced function was to collect and disseminate information about the dairy industry of the U. S. Passage by Congress on May 9, 1902, of an act to regulate the manufacture and sale of "renovated" butter gave the Division impetus.

By 1904 the lines of research it intended to pursue were well outlined. In 1924 the Division became the Bureau of Dairying by act of Congress. In 1926 its name was changed to the present BDI. Readers will find some account of its researches in *USDA* for December 11, 1943, when the valuable and outstanding work of the man who long headed its research investigations, Lore A. Rogers, was discussed.

A Section of Market Milk Investigations was organized in the Division in 1905 and a Section on Dairy Manufacturing Investigations the following year. In 1910 the Division acquired a 190-acre farm at Beltsville, Md., to use for experimental purposes. The first work on breeding cattle was undertaken the following year and work on the nutrition of dairy cattle came somewhat later.

Varied achievements

BDI also collects and analyzes production records of dairy herds and utilizes this information to promote herd improvement on a national scale. The work of its geneticists has resulted in the so-called proved-sire system of breeding, attention being centered on sires which transmit the ability to produce high yields of milk and butterfat. Remarkable progress has been achieved in developing strains and herds that approach purity in their inheritance for high production.

The work in the old Division of S. Henry Ayres and his associates on the bacteriology and chemistry of milk pasteurization was fundamental in this field. It actually forms the basis for all sanitary and health regulations governing milk handling throughout the Nation today. It disabused the minds of physicians and others of many fallacies and superstitions.

The work of William Mansfield Clark was described on page 8 of *USDA* for April 1. It was complex, it seemed remote from practice, but it turned out to be of value in many varied industries. The work of C. F. Doane, E. E. Eldridge, and others transformed the Swiss cheese industry in this country, while that of the late K. J. Matheson founded the domestic Roquefort or blue-mold cheese industry here.

George E. Holm and associates have for years studied the question of why milk products spoil. Much of this work seemed highly theoretical. But when war came—and, with it, quick need for whole-milk powder to ship to our Allies—we were ready simply because this work had been done. Holm's work on milk proteins and on the minor constituents of milk also is outstanding. He is now Rogers' successor.

Peace to war

Many of us may remember how milk and butter used to become puglistic with the spring and fought back at us with the nonethereal odor of the wild onion and garlic. J. A. Gamble, Ernest Kelly, and C. J. Babcock fought this trouble without gas masks. They solved the problem. In fact, practical feeding practices were evolved which enabled dairymen to use many highly nutritious but sharply flavored feeds without producing abnormally flavored milk.

Physiological studies of milk secretion have been carried on by Walter W. Swett and his associates in BDI since 1926. They found, for one thing, that secretion was continuous, not, as the textbooks stated, periodic during milking. Their investigations have completely revised many basic ideas about milk secretion and they formed a basis for much work since conducted on the physiology of lactation.

More recently BDI's work on dairy-cattle nutrition and their reproductive processes, and on ice cream, evaporated milk, butter oil, dehydrated cheese, riboflavin from whey, lactic-acid lacquers, dairy byproducts, and in many other fields has been ingenious and valuable. We merely lack space to detail it. The outbreak of the war required a speed-up in many projects and the initiation of many new studies. O. E. Reed is Chief of BDI.

It's the law!

THE personal use of Government penalty envelopes must be discontinued. The new Public Law 364, 78th Congress, approved June 28, 1944, changes the old concept of Federal mail by requiring Government agencies to pay the cost of sending their mail. So if you spoil envelopes, or use them for non-official purposes, it costs the Department 1½ cents each. *Envelopes and all other material bearing the line, "Penalty for private use to avoid payment of postage, $300," now have a value like stamped envelopes.*

Special envelopes for mail which does not require the penalty marking are being made available both in Washington and the field. If you are not familiar with the new requirements, ask for P & O Circular 153, Supplement 1 (Washington employees, call 3535), or consult your administrative officer.

To further effect substantial savings in postage, all mail going to other Government agencies in or near Washington must be sent through the official mail and messenger service. "Run and stop" numbers for this purpose may be obtained from the communications and records sections of the Bureaus.

Over the top: During the Fifth War Loan Drive USDA employees bought war bonds to the tune of $6,650,451.60—*125.6 percent of the quota.* This includes both Department and field employees, the former buying 114.4 and the latter 128.8 percent. Out of 32 agencies in the Department and WFA, 26 went over the top, subscribing more than 100 percent of their quotas.

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Parasitologists in arms

OF 10 parasitologists of BAI now in the armed forces, 2 entered as selectees, 1 volunteered, and the remainder entered military service as commissioned officers, assigned to technical duties. Two of the 7 were taken from their peacetime duties in the Department at the request of the Army and Navy respectively.

The Department now learns that the three men first mentioned have been commissioned because of demonstrated ability, skill, and leadership. Of the 10, 4 are captains, 5 are lieutenants, and 1 an ensign. Thus all the service men from a small scientific unit, the BAI Zoological Division—having a normal scientific staff of about 40—occupy posts of military responsibility.

Eight of them are engaged in the prevention and control of malaria and other parasitic diseases to which troops are exposed; the other two are in the veterinary corps. Several of them report that the Department's Index Catalogue, which is a key to the identification and control of parasites of man and animals in all parts of the world, is regarded as a specially valuable aid in medical research.

Dr. Pinheiro

DR. Edward Pinheiro is a small, dark, attractive Brazilian doctor of medicine and mayor of his town, Monte Alegre. He has an infectious sense of humor, is wholly ingratiating—in fact, he exudes charm. He is returning to his native land after 15 months of study in the United States as an outgrowth of the good-neighbor policy. What did he study?

Practical farming in the most practical way possible—he learned by doing. For this 32-year-old physician from the State of Pará, in the Amazon Valley, wanted his community patients to eat better and live better. If they were to do so, he felt that their physician, who was also their mayor, should be able to tell them how to build better fences and grow better vegetables—in short, be a combination county agent and FSA supervisor to the citizens of his community.

Thus it was that, after studying malarial control under a State Department travel grant, he devoted an entire year to farm practices, Extension teaching methods, and rural health programs under an Institute of Inter-American Affairs scholarship. Ext. and FSA cooperatively provided the latter training in Arkansas, Oklahoma, Texas, and New Mexico.

Good neighbor

The genial and gracious physician won all Americans wherever he went. Rural people not only accepted him but grew to love him. He, in his turn—despite the false reputation some South Americans have for finding hard labor repulsive—was ready to try anything, no matter what physical effort it involved.

No more helpful, practical demonstration of the close relationship between food and health could exist than this Brazilian doctor's inspiring example. He now returns to Pará to promote the increased production of food and war crops there, and to improve the diets, health, and living standards of his rural people. Good luck, doc!

WFA's WFO food sleuths

A WFO is a War Food Order, and WFO No. 1 applied to the baking industry. Among other things this order prohibits the exchange of fresh bread for bread delivered previously. For, if stale bread is swapped back for fresh, the enriched wheat, milk, eggs, lard, and other nutritive ingredients in the stale bread are usually lost, and that adds up to food waste, which we will not tolerate when at war.

That, and not an effort to make housewives use stale bread, is the intent of the order. But suppose some bakery decides to ignore the order. It is then that sleuths of the Compliance Branch of OD go into action. In the stale-bread instance the services of 15 of them were required, and as a result of their investigations, criminal action was taken against the baking company, its employees, and several proprietors of retail stores.

This just gives you a slight idea of the complex problems that USDA-WFA have to handle these days. If WFO No. 1 requires that all bakery products for housewives contain minimum food values, that white bread and rolls are vitamin-enriched, and so on, that order has to be enforced. Special agents, accountants, or investigators, are maintained in Washington and in OD's regional offices to attend to violations. These agents go into action after a complaint is made either by a member of the general public or by some food-order administrator.

Warnings come first

That does not mean that the law comes crashing down in every case and a herd of offenders go to jail. The agents do not work with blood in their eyes and chips on their shoulders. They represent no Gestapo. Suspects are interviewed sympathetically and given a chance to explain, all circumstances considered. Agents make full reports with recommendations to home offices. When violations are neither flagrant nor aggravated, a letter of warning is usually sufficient.

These letters explain the purpose of the WFO, the character of the violation, and the fact that its continuance will not be tolerated. But also many cases have to be referred to attorneys for civil or criminal action, and fines ranging up to $10,000 have resulted.

No funny business

Some WFO's establish milk quotas to provide milk products the year around for both civilians and fighters. They control the quantities of various foods which go to civilians. Firms which procure meats or fish, etc., for Government use, and then turn it loose for civilian consumption, get very smart raps across the knuckles. One company which so disposed of beef earmarked for the armed forces is right now involved in a case that could produce $340,000 in fines, plus assorted jail sentences.

There are 74 basic food orders on which to ride herd. Being a special agent is therefore a lively job. But every time the agent stops a violation he brings victory that much nearer. Thus we have OD's Compliance Branch to prevent speculation, fraud, hoarding, profiteering, and other funny business with the food supply—for herd riding on WFO's is merely one of its jobs.

Camp for juvenile delinquents

FS OFFICERS are going to help bad boys become good men. As a result of a request from the Bureau of Prisons (Justice Department), FS has agreed to establishment of a work camp for juvenile delinquents at a former Civilian Conservation Corps Camp in the Jefferson National Forest, Va. The Bureau will operate the camp for youths from 16 to 19 years of age who have committed minor offenses against the Federal Government. FS will prepare and supervise an annual program of forest improvement work for the boys.

The Bureau of Prisons feels that a forestry work camp has distinct potentialities for making good citizens out of such youths. Its decision to establish this camp was based largely on the previous satisfactory operation of other work camps on national forests.

Although similar camps are operated for adults, this is the first boys' camp to be established by the Federal Bureau of Prisons. FS is cooperating with local authorities of Ventura and Santa Barbara Counties in California, however, in the development of a boys' camp in Los Padres National Forest to help solve the counties' juvenile delinquency problems.

Rugged individualists

IT REALLY takes a very rugged individualist to be a bureaucrat these days. The calls upon him are many and diverse and often in tones of harsh irritability and incipient censure. Then every so often someone writes in and wants comment on the "psychology of bureaucracy."

What are the special advantages or disadvantages of trying to accomplish objectives through Government agencies? What attitudes, good or bad, tend to grow up among public servants? Is bureaucracy per se pernicious, or is this true only when the bureaucracy is governmental, not when it is private or corporative?

If one who has been called a "veteran bureaucrat" may have his say, he would like to remark that the pernicious aspects of governmental bureaucracy can be duplicated in all large corporations of whatever kind, and even in universities, if they are big enough. These pernicious aspects tend to creep into *any* organization, after it attains such size that direct management becomes difficult.

One individual can direct the activities of only so many others. If you will look into the history of USDA, you will find there has been a continual tendency to consolidate agencies so that relatively fewer bureau and office heads come directly under the supervision of the Secretary. The same trend will be noted in the history of any large organization, public or private.

Curse of bigness

Human beings have limited capacities and often seem unable to deal effectively with large institutions of great complexity. Once the institution attains great size and intricacy, deficient direction and the evil aspects of bureaucracy creep into it unless very careful watch is kept.

For one thing, employees at a certain level of supervisory status—say at around the $6,000 salary group and above—tend to become so involved and busy that they can no longer think about what they are doing in relation to their unit, agency, and larger governmental or institutional policy. There is also the tendency of too many administrators personally to attend to details that should be delegated.

Such administrators are really born subordinates. Minor activities have a compensatory value for them as their very busyness pleases and soothes them by making them think they work hard. They remain psychological underlings. Others become secretive about their operations and the work of their unit stops dead when they are out of the office or laboratory.

These persons really do not know how to be administrators. Good administrators should be super-duper thinker-uppers, like the best scientific directors of research laboratories. They should attend broad aspects only. They should not feel that they are loafing if they merely do this and are not momentarily occupied with the trivialities demanded by modern office procedure.

Which is best?

The very contrivances and machines at the disposal of executives, administrators, and supervisors trick them often into merely utilizing these instrumentalities to the full without any clear idea of where the parade is going or of their own place in the procession. Though governmental organization may be better than private for some things, the important consideration is the kind of person who mans the institution.

Any public or private institution can be slovenly and objectionable towards its clientele, whereas proper staffing would effect a revolution. Consider only the difference between an irritable, bellyaching bus driver and a courteous, pleasant one. The latter transforms the entire transportation system for you, and the world besides.

The good or evil attitudes which grow up depend not upon whether the service is private or governmental, but upon whether it is good or bad. Many prefer Government service because everything therein is not tied to profit and because it takes the hardest kind of effort to succeed there. Such employment also leaves a larger margin for the luxury of personal integrity. Private employment often stultifies the worker.

If anything, governmental institutions are better than private for undertaking operations in which there is little or no profit, but for which there is great social and economic need. Hence, Government usually undertakes the tasks in which private enterprise is not interested or at which it has dismally failed. Yet we Americans habitually judge Government by its worst examples and private industry by its best, but the fact remains about as stated.

Herbert A. Smith

WAY BACK in July 1901, only 2 weeks after the Bureau of Forestry was organized in lieu of the former Division (it became FS in 1905), a handsome young man joined its staff. He had an A. B. from Yale, class of '89—wherein he formed his lifelong friendship with Gifford Pinchot—topped with a Ph.D. in English. He had been for 6 years an instructor in English and for about a year an editorial writer on the New York Evening Post and World's Work.

The new staff member was Herbert A. Smith, who died July 22, 1944, at the age of 77, after 7 years in retirement as an FS collaborator. Gifford Pinchot headed the work when Smith joined up, so he became associated with forest conservation in its infancy, along with Pinchot, Henry S. Graves (second FS chief and later Dean of the Yale School of Forestry), and President Theodore Roosevelt himself.

Smith was the first forestry editor and continued in this work till 1925. He set a high standard for forestry publications which is still maintained. He organized FS information work. He interpreted the young profession of forestry to the public in admirable fashion, maintaining the best of relations with press and periodicals. In 1920 he became head of FS's Branch of Public Relations; in 1925 he was designated to handle special assignments. He prepared the Reports of the Chief of FS for a generation.

Farewell, pioneer

Tall, slender, dignified, he was truly a scholar, a gentleman, and a great public servant. He helped put the administration of the national forests and the Government-led forest conservation movement on a sound basis. This often involved determined opposition to those who preferred to exploit our forest domain. As an administrator, Smith was practical and fair-minded. He was active in the promotion of better employee relations, the Agricultural Branch of the National Federation of Federal Employees, and the Credit Union.

Smith's wisdom, logic, and acumen left a permanent accretion of accomplishment on the policies, aims, and ideals of FS. He was a prolific writer of official publications which had a wide distribution in the U. S.; some were also issued in Spanish and Portuguese editions. His death left another gap in the thinning ranks of those who pioneered in forest conservation in this Nation.

Graduate School

THE Department Graduate School begins its twenty-fourth year on September 25. Illustrative of the variety of the curriculum are four new courses. One trains Government employees in the writing of simpler English. Economics of Rural Welfare examines scientifically economic trends in rural areas. Problems of Commercial Air Transportation analyzes developments in a field of great post-war significance. Pressure Groups in Government studies "pressure" methods upon the legislative and administrative processes of modern government.

The Graduate School is increasing the number of correspondence courses. These courses fall into four groups. The first, agriculture, includes History of the Department of Agriculture, History of American Agriculture, and Comparative World Agriculture. The second, administration, offers Federal Accounting, Auditing, Personnel Procedure, and Administrative Management. In the third, mathematics and statistics, are Least Squares, Statistical Methods in Biology and Agriculture, and Sampling and Experimental Design. Finally, as practical self-improvement courses, Methods of Conveying Ideas, Government Letter Writing, and Legal Aspects of Investigations are offered.

Information is obtainable from the Graduate School, Department of Agriculture, 1031 South Building, Washington 25. D. C.

Nip typist?

IN THE good old days when the Japanese were regarded as a cute little race given to slavish imitation, the story was told of an American woman who, while living in Japan, secured an exquisite china tea set. After her return to this country all the cups and saucers were gradually broken until she had only one cup and saucer left, with a nick in each.

With great difficulty she found a man in Japan who would undertake to reproduce cups and saucers from samples. The remaining articles were packed carefully and sent to Japan for this purpose. In due time a larger package returned from overseas containing a half dozen beautiful cups and saucers, exact copies of the samples, with a nick in each cup and in each saucer!

Some typists remind us of this quaint Japanese china worker. They copy exactly what is given to them even if this involves a capital letter in the middle of a line, a weird typographical error made by some hurried writer, an inexcusable and glaring error in fact, spelling, or number. This they do mechanically. If their attention is called to this they point blandly to the original copy saying, "That's what it said there." Since their job sheets usually say they should correct and make minor factual revisions as they copy, we wonder sometimes just why they expect promotions, yet many of them do.

Brief but important

Correspondence manual: The 1944 Correspondence Style Manual (Administrative Series No. 2) is just off the press. This handy and well-illustrated manual explains letter set-up, how to use the standard memorandum form, correct military titles and addresses, foreign correspondence, and other tips. Superseding the Manual issued in 1941, the new Manual was prepared under the supervision of Pers. by a committee representing the Offices of the Secretary and War Food Administrator and various other Offices and Bureaus.

"All employees who prepare correspondence should follow it closely," say Secretary Wickard and War Food Administrator Jones in a foreword. It is being distributed by Bureau personnel officers to employees in both Washington and the field.

Henry S. Graves awarded medal: Henry S. Graves, FS Chief from 1910 to 1920 and now dean emeritus of the Yale School of Forestry, has been awarded the Sir William Schlich medal for distinguished service to American forestry. American and British friends of Sir William (1840–1925), forestry professor at Oxford University, established a fund and medal in his honor. The medal has been awarded only twice before in the United States: In 1935 to President Roosevelt, for leadership in forest conservation; and in 1940 to Gifford Pinchot, first FS Chief.

Extension methods in rehabilitation: Ext. and FAR have called a conference September 19–22, in Washington, to consider the use of agricultural extension methods in rural rehabilitation of war-torn areas. The conference will be in two parts; general sessions and regional committee work concerned with special problems of major areas. The conference is entirely for the purpose of gathering data which would be made available upon request and which might be useful to agencies concerned with post-war rehabilitation in liberated countries.

New faces in FSA: Jesse B. Gilmer succeeds C. F. Brannan, now Assistant Secretary of Agriculture, as head of the FSA Water Facilities and Water Conservation and Utilization Programs in 17 Western States. Mr. Gilmer had been FSA regional director with headquarters at Amarillo, Tex., and also, since last year, FSA assistant administrator. Floyd F. Higbee, with FSA since 1936, becomes FSA regional director with headquarters at Denver, Colo. Marcus B. Braswell, former FSA assistant regional director at Raleigh, N. C., is now director of the FSA Rural Rehabilitation Division at Washington. E. B. Whitaker, new director of the FSA Cooperative Division, was formerly Director of the Southern Region of the War Relocation Authority.

Sgt. Mehring awarded cross: The Washington Times Herald for July 29 reported that Charles W. Mehring, Department Library assistant now in the service, has been decorated with the Distinguished Flying Cross in England. The citation was for extraordinary achievement while serving as tail gunner of a Flying Fortress on combat missions over Germany and enemy-occupied continental Europe."

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USDA

FOR OCTOBER 2, 1944

Office of Information

THERE has been a tendency on the part of some USDA agencies represented in this series to make tall claims about their great age and antiquity. Naturally no such claims will be made for Inf. It is true, of course, that the organic act founding the Department May 15, 1862, directed it "to acquire and *diffuse* among the people of the United States useful information on subjects connected with agriculture, in the most general and comprehensive sense of that word." You can't deny facts.

Moreover, the original authorization by Congress in 1839, giving the Patent Office power to expend $1,000 for agricultural purposes, may be traced back to the fact that Henry L. Ellsworth, the Commissioner of Patents—he served from 1836 until 1845—was an information man without knowing it. For Ellsworth wrote his reports in so interesting a manner that the President of the U. S. claimed to miss his appointments while reading them, and printings of as many as 25,000 were required by public demand. These reports dealt largely with agriculture.

Later the Patent Office came to issue a special agricultural report each year written by a man trained in agriculture. This report, like those of the Commissioners of Agriculture after 1862, not only contained the report of the man in charge of Federal agricultural affairs, but also articles by outside writers, replies to correspondence, and other material of interest to farmers. The Department also issued scientific and technical bulletins and, for a decade or so, semi-popular monthly reports designed to give up-to-date information.

Information Specialist Rusk

The next landmark in information history came in the person of Jeremiah M. Rusk, appointed Secretary of Agriculture by President Harrison and serving from 1889 until 1893. In his first annual report he wrote: "I last July established a division in charge of a gentleman having special experience and qualifications for such work, and who will have general supervision of all the publications issued by the Department." This unit, first a section in the Division of Statistics, in 1890 became the Division of Records and Editing. George William Hill was Chief.

Rusk also recognized the necessity for further popularization of the Department's scientific and technical findings. He therefore arranged for the issuance, not only of Farmers' Bulletins, but also of advance sheets for the press regarding every publication. These went to newspapers, press associations, agricultural and other periodicals, agricultural writers, and journalists or editors generally who wanted them. Rusk also seems to have been an information man without knowing it.

Gradually the Division of Records and Editing absorbed the Document and Folding Room and the Division of Illustrations. It became the Division of Publications in 1895. It ran along somewhat the same until 1913, when David F. Houston became Secretary. It attended to the editing, printing, illustrating, and distribution of all publications. Such work as was done with the press remained in the Office of the Secretary.

Making facts available

In 1913 Secretary Houston established an Office of Information in the Office of the Secretary. Its purpose was to prepare brief popular statements of facts derived from printed material, typewritten reports, or interviews with scientific specialists, and to issue these in mimeographed form to newspapers and periodicals. Houston wrote also: "The material sent out by this Office is limited entirely to making known the facts of discovery and the official rulings of the Department."

So things continued more or less until 1919, when Edwy B. Reid, now FCA's head information man, became Chief of the Division of Publications. The following year Secretary Meredith placed the Office of Information, the Office of Exhibits, and the motion picture work under Reid. Thus all Department information work came under one head. Under Secretary Henry C. Wallace, however, the motion pictures, press, and exhibits work reentered the Office of the Secretary.

In 1924 Secretary Gore reported that the motion picture and exhibits work had gone to the Extension Service, and the unit remaining became the Office of Publications. Then, in 1925, Secretary Jardine reported: "The informational work of the Department was consolidated under one head on May 1, 1925. The Office of Information, which was reestablished at that time, includes all publication, press service, and radio work, either within itself or under the supervision of the director." The new director was Nelson Antrim Crawford. The Radio Service was organized in this Office in 1926.

Up to now

Crawford did not issue printed reports as Director of Information. The first to do that was Milton S. Eisenhower, his successor, who in turn was succeeded by Morse Salisbury. Since 1925, however, the Director of Information has been responsible for directing, integrating, and coordinating all USDA information activities. In 1942 the Office of Motion Pictures and the Office of Exhibits returned to Inf. from Ext.

At present Inf. coordinates all USDA-WFA informational activities. It disseminates information arising from USDA-WFA action, research, regulatory, service, and other programs, through press, publications, radio, motion pictures, and exhibits. As a staff organization it serves both USDA and WFA as needed. Keith Himebaugh is the present Director of Information.

AAA's Ed

HE'S an old cowhand from Powder River! Yep, and confidentially he'd rather wear one of those ten-gallon hats than the panama he dons under Washington's summer sun.

He's N. E. Dodd—most folks call him Ed—and today he rides herd on the Agricultural Adjustment Agency. But between his steer-roping "frontier days" and the relative peace and quiet he now enjoys as Triple-A's "big chief," he's been a mighty busy man. Only a rugged individual could have stood the pace.

Back about 1900 a young druggist with a lot of curly hair and a quick smile—both still much in evidence—decided that he was tired of trekking through the Middle West. He was going to Alaska's gold fields and make a fortune. On the way, he saw the green gold of eastern Oregon's fields and hills. It drew him as

the yellow gold of Alaska never could, for the warm sunshine was like heaven after months of bitter winter weather in North Dakota and adjacent States. This was his country, it seemed to say, and so he remained.

During his first 3 years in Oregon he was kept busy with the drug stores he opened in Pilot Rock and other small towns—one 105 miles from the railroad—and with the business of persuading young doctors and dentists to turn pioneer, too. His stores thrived, but he had always wanted a ranch and some white-faced cattle (Herefords to you) and in 1903 he bought his first acreage near Haines, in the Powder River Valley. There were no lights, no telephone, no drugstore or doctor or dentist in the town—just three general stores and five saloons!

Hard work

That was merely grist for young Ed's mill, however. He and his partner put in the first electric lights, including wiring, poles, and the building of a generating plant. They installed the first telephones. They opened a drug store, too—that was just routine by this time—and brought in the inevitable doctor and dentist. The town post office was in their store for many years, and our Ed eventually became postmaster. He was "the law" as well, in his role of police judge.

After a while he decided it was time someone else took over most of these jobs so he could really get down to being a cattleman and attend to his wheat, barley, and alfalfa. It wasn't long, though, before he was at it again—he built several warehouses in Haines, opened the first feed grinding mill, bought and developed a planing and sawing mill, plus a lumber yard, and operated stockyards that he still owns.

Entertainment was definitely lacking in Haines in the early days, but only until this Dodd fellow had time to do something about it! He organized a town band and a dance orchestra (in which he played trumpet or cornet or baritone or trombone) and he opened Haines' first motion-picture show. These became something of a combination enterprise, because after the "movie" there would be dancing into the early morning hours. Those were genuine rip-roaring affairs, Ed Dodd reminisces with a grin. "Check your guns at the door, folks. We don't want any trouble tonight. If you want to fight, go outside where there's plenty of room!"

A lot of fun

Even before 1917 Ed Dodd had been representing the Baker County farmers on the "outside." With his work as a regional supervisor handling wheat-price matters and allocations for the Food Administration of World War I, he officially began a long career of bridging the gap between the farmer and his Government. A member of the East Oregon Wheat League from its early days and of the Oregon Cattle and Horse Raisers Association, livestock inspector and appraiser for the RFC, exponent of the McNary-Haugen farm bill, Baker County chairman on the 1933 Wheat Control Law, chairman of the Oregon Corn-Hog State Board of Review, chairman of the Oregon Agricultural Conservation Committee, and field representative for Triple-A Western Region, Ed Dodd became assistant director of this Triple-A Region under C. C. Conser in 1938. He took over as director in March 1939, serving until June 1943 when he became Chief of AAA.

Ed Dodd misses his ranch and those white-faced cattle these days, when duty keeps him tied to Washington, and he misses the excitement of the early Oregon years. For his whole philosophy can be summed up in a single phrase: "It was hard work, but we had a lot of fun!" That's why he believes if he had to live his busy life over again he'd do the same things in the same way—and why not? He's had the satisfaction of pioneering in wild, unsettled country and seeing it develop in a couple of generations into one of the finest irrigated farming areas, thriving and prosperous, a typical example of the things that are America.—MARGARET F. BECKMAN, *Division of Information,* AAA.

Buffers

SOMEWHERE in your agency there are persons charged with responsibility for personnel and administrative services. They are service workers, of course, as distinguished from supervisors, but they are the custodians of all personnel relationships in your unit. They probably know more than anyone else about the workers there as individuals, their good points and their bad, their eccentricities, and their often incredible demands. Naturally they have to keep their own counsel most of the time.

These people are also the buffers between workers as individuals. They are the middlemen. In gangster terms, they, along with supervisors, "take the rap." They feel as if they get blamed for everything. But they stand up nobly under punishment. After all these people see the agency as an institution. You see it as an individual. Your needs are of fundamental importance to you. You feel that the work of the agency and the entire Department will suffer unless full compliance is had with your wishes. That is only natural.

But they know that is not so. They know that men vanish while institutions go on. They know also that, while jobs sometimes make the man or woman, the man or woman also significantly enough creates the job. The same job held by two different individuals may bridge the span between total inadequacy and influential importance. Your personnel and administrative people really have the low-down on you and on every other worker in the agency. They know who advances and why, who creates and who does not create. Respect these buffer people for they have well earned your respect and fully deserve it.

Paper work

A FEW months ago the editor was on a field trip. The hotel where he was staying caught fire and from 10:15 p. m. till 1 a. m. guests were herded in the lobby. There he got mixed up with two shoe salesmen, one of whom gave vent to this anguished lamentation!

> If that room of mine burns out I'll quit and never sell another shoe as long as I live. I wanted to go to a movie tonight, but I was behind on my red tape. So, like a good boy, I stayed in and did all my homework, made 16 copies of every order for the company and filled out all the other dozens of forms. It's more trouble to report to the firm you sold shoes than to sell shoes. The minute I'm through, they yell fire and I come down here. If my work is burned up, mind you, I'll quit and never sell another shoe.

More recently Printers' Ink, a magazine dealing with advertising, business, and management, ran an article about the salesmen for a large firm who threw bales of printed matter in hotel wastebaskets every day. The firm sent them all that stuff to read. They had no time to read so much junk. So away it went, waste paper from the start. Printers' Ink chided big firms not to send out printed matter so lavishly.

There is a fascination about paper work that tends to lure all of us. Things on paper seem so orderly, so easily filed, so effective. But, just because of that, a great deal of it can become trash in our hands right while we are busiest with it. The red tape bug bites indiscriminately, inside and outside Government. Paper work is not peculiar to governmental institutions, but it can become as big a nuisance in them as it often is in business firms. We should try to control this evil before it gets to control us.

Western Regional Research Laboratory

LIKE THE other three Bureau of Agricultural and Industrial Chemistry's regional research laboratories, the western one spreads over the area of an ordinary city block and is four stories high. Standing on the east shore of San Francisco Bay, it faces eastward toward the mountain slopes on which Berkeley, Oakland, and lesser municipalities crowd together. Albany, the lab's home town, is crowded with war workers. Richmond, a neighboring city, is famous for its shipbuilding. In the western lab about 235 scientists and assistants do research on the industrial utilization of vegetables, fruits, poultry, wheat, and alfalfa, as well as work on the commercial angle of food and feed. T. L. Swenson is Director.

Vegetables

A major objective of the studies with vegetables is dehydration, to make the dried products 1–A for war and also peacetime use. Roughly, a third of the staff has been engaged in this work during the past 2 years. W. B. Van Arsdel has charge of research on engineering phases and his group studies principles of dehydration, their application, and the numerous plant-operation and equipment problems. L. B. Howard directs technological studies such as tests of quality, pretreatment, dehydration, packaging, storage, and so on.

The Los Angeles laboratory, directed by E. A. Beavens under the supervision of the Albany laboratory, handles special dehydration jobs. W. D. Ramage is directing the special efforts on compression of dried products. All results go directly to the industry through reports.

While dehydration is the big job with vegetables, it isn't the only one. Preservation by freezing is studied in Acting Chief Bob Straka's Processing Division. The armed forces like frozen vegetables for domestic camp use and have stimulated production. The food-freezing industry is growing and wants a great deal of research. In the Biochemical Division, under H. D. Lightbody, studies on asparagus-butt juice are showing that, properly handled, it makes a promising medium for the growth of useful microorganisms.

Fruits

Frozen fruits are becoming bigger business each year, and western lab people try to meet research needs. The objectives are better freezing technology and better products, less waste, lower cost, and new products. The Fruit Section developed velva fruit—the new smooth-textured dessert that may be frozen commercially or in the home refrigerator—and several valuable improved methods of handling fruits during freezing.

In Acting Chief W. D. Maclay's Byproducts Division, production and uses of pectin are being investigated and a method of getting tartrates from grape wastes has been developed to an advanced stage. The Biochemical Division is obtaining data on fruit wastes for the growth of yeast for both human food and animal feed. It is also unraveling some mysteries regarding the behavior of the pectin enzymes and applying the new information to processing problems.

Poultry and eggs

The drying of whole eggs, a wartime research project in the western lab, was small-scale business before the war but now is truly big-time. Research is needed to prolong and improve the keeping qualities. Investigations have shown causes and indicated means of circumventing some of these difficulties. The Biochemical Division has developed a promising method by which the antibiotic enzyme, which occurs naturally in egg white, can be isolated in pure form and large quantities. Eggs and poultry are also important as frozen foods and the frozen food researchers are taking kinks out of the freezing problems.

Wheat, alfalfa, hemlock bark

The western lab is working on the gluten or protein fraction of wheat. Since glutamic acid (a food-flavoring substance) is an important industrial product of gluten, researchers in the Protein Division are working on its characteristics and methods for quantitative determination. They have also prepared a gluten derivative (gluten sulfate) which absorbs and holds 200 to 300 times its weight of water. Covered by a public-service patent, this material is of interest to pharmaceutical concerns.

Alfalfa may get more attention later. At present people in C. H. Kunsman's Physicochemical and Analytical Division are interested in its pigments, chiefly the vitamin carotene, since stabilizing carotene (once it is extracted) is an unlicked problem.

By modifying ordinary procedure, men in this Division have recently obtained promising tannin extract from western hemlock bark. This same Division, by the way, is the one that conducts spectroscopic, X-ray, electronic, thermal, microchemical, and other fundamental researches for the western lab.

Fire Prevention Week

PRESIDENT ROOSEVELT, in a Proclamation on August 17, designated the week beginning October 8 as Fire Prevention Week. War Food Administrator Jones and Secretary Wickard, in General Departmental Circular No. 52, issued September 7, say in part:

> Farm fire losses in 1943 amounted to approximately $95,000,000 or slightly more than one-fourth of the total fire loss from all causes. Injuries and loss of life as a result of farm fires assume serious proportions. These losses are particularly serious during the war. The number of fires can be greatly reduced by the exercise of intelligent foresight, and it is incumbent upon us to take all measures that we can toward that end.

G. I. Joe on the farm

ASSISTANT SECRETARY Charles F. Brannan sends us the following:

On June 22 the President signed the Servicemen's Readjustment Act of 1944, commonly referred to as the G. I. Bill of Rights. Shortly afterwards the Administrator of Veterans Affairs called upon the Secretary of Agriculture to assume responsibility for carrying out those portions of the bill authorizing the Administrator to guaranty loans made to a veteran to establish himself in farming.

After a careful survey, the Secretary proposed that Extension assume responsibility for furnishing the veteran with necessary information and guidance on farming. So the Extension Service is forming an advisory committee to assist the county agent in this task. The Secretary also proposes to designate the Bankhead-Jones Farm Tenant Committee in each county as the certifying committee, with responsibility for determining the ability and experience of the veteran and the nature of the proposed farming operations, so there is a reasonable likelihood that such operations will be successful and the price to be paid for the property does not exceed the reasonable normal value as required by the act. The FCA land bank appraisers will be called upon to appraise farm lands to be purchased by veterans.

Upon proper certification the guaranty provisions of the act will become effective to assure repayment of not to exceed 50 percent of the loan or more than $2 000. Loans to which the guaranty can apply may not draw interest at more than 4 percent nor be repayable over more than 20 years. No cash changes hands unless the veteran defaults. If the veteran already has a loan from a Federal agency, the guaranty provisions of this act may be applied to a

second loan, provided this does not exceed 20 percent of the purchase price or cost of the property. Second loans may draw 5 percent interest.

Every effort is being made to put this phase of the act into effect at the earliest possible moment. *The Secretary's recommendations must first be approved by the Administrator of Veteran Affairs.*

When are apples ripe?

PROPER maturity for picking is vitally important to the apple grower, for the storage life of the fruit as well as its eating quality are greatly influenced by the stage of maturity at which it is picked. In the past, three guides have been rather extensively used: (1) Degree of yellowing; (2) firmness of the flesh; and (3) ease with which the apple may be detached from the tree. Of late years, a fourth has been taking on increased importance—elapsed time from full bloom.

Dr. Mark H. Haller, associate pomologist, Bureau of Plant Industry, Soils, and Agricultural Engineering, has recently completed an exhaustive check of these guides over a period of half a dozen years in the principal apple-growing sections of the country. He concludes that the growers have been leaning on rather frail reeds in picking-maturity guides.

When red?

The value of the yellowing or ground color guide, for example, has been considerably weakened by the increasing use of red strains that develop color before they are fully mature. Too, some of the standard varieties, under conditions favorable for red color development, color up enough to mask the ground color before the apples are fully ripe. Firmness of flesh is hardly a safe guide, Haller argues, since pressure tests indicate that the range at which maturity is reached is too great and the softening too gradual. And the accuracy of the ease-of-separating guide has been lessened by the introduction of harvest sprays to prevent fruit drop.

It appears, however, that the number of days from bloom to maturity offers a relatively safe guide. For example, the number of days from bloom to satisfactory maturity for Delicious and Starking apples was found to be about 150, regardless of whether the apples were grown in Washington, Oregon, Illinois, Ohio, Michigan, New York, or Maryland. Similar data are being obtained to show the best picking dates for the principal commercial apple varieties.

Post-war food reserves

AMERICAN farmers are completing another great harvest. But now that the hay is in the mow and the corn is going into the crib, they are beginning to wonder about the food reserves which will be left when the war is over.

Some of them remember the "dumping" that helped to break farm prices after World War I. Some of them are looking to WFA for the answer to what will happen this time.

Since the beginning of the war food program, WFA has been resolute in declaring that the same mistakes should not happen again. And definite steps are now being taken to see that they don't.

The first step is that the Office of Distribution is buying only enough to meet lend-lease and other requirements. Of course reserves have to be maintained. Boats of our Allies must not be allowed to loaf in harbors while food enough to fill them is being produced. But after the necessary reserves have been built up, buying can be kept in line with requirements. Everyone knows, too, that our military forces cannot take chances on losing battles because they run out of food.

Uncle Sam, grocer

The next step being taken by OD to put the national grocery store in order for the end of the war is to move out stocks which are no longer needed for war requirements. Lee Marshall, OD Director, has set up a Sales Division to sell such stocks and also those that other war agencies tag as "surplus." These foods are being sold now while the demand is strong instead of allowing them to pile up until the war is over. This reduces the post-war job and gives the Division good experience in the sale of such stocks.

Foods now being sold come from turning stocks, trimming inventories to known requirements, and from commodities purchased to support farm prices.

OD for the past few months has been selling back to the trade between 8 and 10 million dollars worth of food a month. Although a good portion of this consisted of eggs bought to support producer prices, it also included commodities for which the war need has passed or for which requirements have failed to develop, or 1943 foods which are being sold and replaced with newly produced ones in order to keep stocks fresh and usable. It included not only OD surplus, but that of the War Shipping Administration, Red Cross, etc. The policy is to get the maximum price for the United States Treasury and to avoid disruption of normal trade channels.

Outlets for foods

Congress has directed that farm prices be supported for a period of at least 2 years after the war ends. To do this job it may be necessary, among other things, to increase domestic consumption of foods through various methods such as the Food Stamp Program that was used from 1939 to 1943, the community School Lunch Program now in operation, and direct distribution to institutions and relief families. Some food may have to be diverted to industrial and feed purposes, and new uses. Export possibilities must be thoroughly explored.

There will be other outlets for Government-owned food stocks, notably relief feeding. The creation of the United Nations Relief and Rehabilitation Administration speaks for the broader scope of relief feeding operations. At least part of the reserves left over at the end of the war will be used for this purpose.

Reconversion will not be easy, but OD is making it easier by tackling the job now.

REA in Australia

WHEREVER they go, "REAers" seem to be able to find somebody eager to talk about rural electrification. T/5 Albert B. O'Donnell, on military furlough from Rural Electrification Administration's Finance Division and recently stationed in Australia, read in the REA Roll Call (biweekly publication issued for REAers in uniform), that the Electrification Commission of the State of Victoria was interested in gathering information on rural electrification in the United States. So, when Technician O'Donnell got a furlough, he appointed himself roving ambassador and went to the Commission's office in Melbourne.

T/5 O'Donnell found that A. C. Sandow, one of the Commission's officials, was engaged in a close study of our country's program and had corresponded with REA officials. REA publications were freely quoted by the Australian, indicating thorough familiarity. They spent several hours together at the office and Mr. Sandow later invited O'Donnell to tea at his home.

Another REAer who has supplied information on rural electrification to foreign officials is Harold Brown, who recently returned to St. Louis after completing an assignment on the Alcan Highway project. At Edmonton, Alberta, Canada, he visited with W. D. King, Deputy Minister of Trade and Indus-

try and Chairman of the Alberta Power Commission. Mr. King later wrote REA: "Mr. Brown gave us a very good description of the work of your agency, particularly with reference to the establishment of local cooperatives * * * The information he gave us will be very helpful."

As a result of his conversation with Mr. Brown and his correspondence with officials in St. Louis, Mr. King plans a visit to REA headquarters.

Protein facts

POSSIBLY some of you are old enough to remember the days when it was believed that raw egg white was about the most easily digestible and nutritious food one could get. Today we know, however, that raw egg white is neither very digestible nor nutritious; the body uses it poorly and, in large quantities, it has injurious effects. When coddled, however, the white becomes readily digestible. It is a protein of good nutritive value then, though egg-yolk proteins are superior.

What is protein and what are good proteins? Proteins are complex organic compounds which act as our principal body-building material. For present purposes egg white or lean beef may be regarded as protein. The organic substance of most of our organs and tissues is protein, and about 18 percent of the body consists thereof. Hair, nails, skin, and muscle tissue are almost pure protein. No other substance can take its place.

We must have protein in our diets to build new tissue, and to renew and rehabilitate our tissues which distintegrate under wear. Protein can also supply energy, but is not necessary for this purpose in a good diet which contains sufficient fats and carbohydrates. During growth and after wasting diseases human beings have special needs for proteins. The great bulk of the nitrogenous constitutents of food consists of protein, though it rarely occurs in a natural or free state.

Amino acids

Most proteins are composed of carbon, hydrogen, nitrogen, oxygen, and sulfur. Proteins differ widely in nutritive value, however. They are made up of various combinations of about a score or more simpler compounds called amino acids. Our bodies can themselves manufacture some amino acids, but others we simply must eat in our food. These are called the dietary-essential amino acids. Some proteins lack important amino acids and are therefore regarded as incomplete or deficient.

Now if you try to subsist on a deficient protein, you will lack one or more amino acids. For your body tears the food proteins down into their constituent amino acids in the digestive process, and these are then assimilated and utilized to build your own body proteins. Zein, the principal protein of corn, lacks two very important amino acids, hence is incomplete. Young animals fed it as their sole protein soon begin to lose weight.

One of the principal proteins of wheat, gliadin, is also deficient in the important amino acid, lysine. The chief protein of the white bean is a deficient protein; gelatin actually lacks four or five important amino acids. In general, the proteins of milk, eggs, meat, and fish are more likely to be complete, those of cereals and legumes less so.

How much protein?

However, there is a curious supplementary relationship between proteins, as it seems to prove that the whole is more than the sum of its parts. D. Breese Jones and associates, HNHE, from whom the information used here was derived, have found that, for instance, if soybean, peanut, and cottonseed flours are used in conjunction with wheat flour, the resultant bread is more nutritious than bread made from any of these materials used alone.

Again, a very little meat, or milk, or egg protein will go far toward supplementing deficient vegetable proteins and making a highly nutritious combination. Actually, the addition of 15 parts of peanut or cottonseed flour will almost double the growth-promoting value of white flour, while the addition of 15 parts of soybean flour, or only 5 parts of animal protein, will increase its value fivefold.

Adult human beings require about 70 grams of protein in their diet each day. This is a little over 2 ounces. It should be good protein, i. e., protein made up of a blend which contains all the dietary-essential amino acids in sufficient quantity to supply good body-building material. Furthermore, it must be remembered that cooking favorably affects the digestibility of many proteins. Proteins of navy beans, lima beans, and lentils, though indigestible when raw, become very digestible if cooked.

The old fallacies that too much protein would blow your kidneys out or cause high blood pressure have been pretty well exploded. But if you are going to overeat, it is a bad idea to overeat proteins, as the body has more work disposing of waste products from excess proteins than from any other foods. Fats and carbohydrates consist almost entirely of carbon, hydrogen, and oxygen, the end products being gaseous and easily expelled by the lungs. (For further information see Protein Requirement of Man, by D. Breese Jones, Yearbook Separate No. 1677.)

How to win friends and—

WITH the assembling of a new Congress, a veteran member told the newcomers that if they wanted to keep their jobs they should answer letters promptly. "Reply first," he urged, "to those letters written in pencil on tablet paper. They are from somebody at the head of the creek who will be your friend for life."

No matter how crude a letter may be, it is a vitally important thing to the writer, and the sort of reply we make may have a decided influence in winning a friend or making an enemy for the Department. A prompt reply helps a lot, too. Sometimes it is not possible to assemble promptly the information requested. In such instances the letter should be acknowledged at once with a promise that the desired information will be sent as soon as practicable.

Matter of form

On occasions the volume of correspondence is such that individual attention cannot be given to all inquiries. Hundreds, even thousands of letters, sometimes arrive in a single day as the result of some radio broadcast or newspaper item. It is usually possible to meet this situation by preparing form paragraphs that may be readily moulded into letters.

Such paragraphs often have the advantage of being more carefully prepared than an originally dictated letter and they are apt to give more detailed information—material that might be overlooked in hastily dictated replies. And they guarantee that the replies will be uniform.

Paging Dr. Blank

Such standardized letters, even though the material has been prepared and approved by the specialist concerned, usually should not be signed in his name in his absence. It is better to add a final paragraph stating that Dr. Blank is out of town and that the inquiry will be called to his attention on his return so he may supply any further details considered desirable. A person not adequately trained in a specialty may not appreciate the significance of conditions involved in what may appear to be a simple inquiry.

Mechanical cow

THE Council on Foods and Nutrition of the American Medical Association rather diffidently discussed a "mechanical cow" recently. Actually the "cow" is a machine used to mix water, nonfat dry milk solids, and butter, to produce a product that could act as a substitute for milk or cream, depending on the proportion of the ingredients employed. Ice cream could also be made in this rather versatile cow.

Details of the mechanical cow's interior will not be stressed out of deference to animated lady bovines. The machine would perhaps be useful on shipboard and in regions where dairies are inadequate or nonexistent. Nonfat dry milk solids and butter keep better than fresh milk and cream, and a wholesome product could be prepared rather economically. The Council was not at all sure, however, that it had a fulsome affection for this mechanized cow. Possibly there are some reluctant rustics on the Council.

Farm nostalgia

USDA for August 7 mentioned that metropolitan newspapers have on their staffs individuals of bucolic inclinations who suffer from a lifetime agrarian nostalgia. This sort of thing has just cropped up again in an editorial in the New York Times for July 17 which, regardless of its harsh metropolitan source, seems good enough to quote entire.

There is something satisfying about a farm shop on a rainy day in midsummer. Partly, perhaps, it is because one is glad of a leisurely day in the midst of haying. Or it may be that the steady fall of the rain on the roof, the low-lying nimbus clouds, and the soft, gray light over the upland fields and valley meadows create an atmosphere which relaxes.

The countryman is justifiably proud of the farm shop. The man on the farm cannot trot to the neighborhood hardware store or the local man of all trades. The farmer is his own mender. Therefore the farm shop over the years, or generations, has accumulated an assortment of tools. They hang from pegs and spikes and slots over the stained and nicked bench of solid maple planks; sledge hammers, crowbars, and shovels stand in the corners. The bench itself is a mass of odds and ends. A two-man crosscut saw dangles from a brace on the wall. Under the bench there is a heterogeneous mass of pieces of broken chains, sections of harness, scraps of lumber, and old buckets. From the rafters overhead hang pails and burlap bags, old snaths, a sickle, baskets and traces of seed corn. In one corner is the small, one-cover, rusty, rotund stove; around the floor are decrepit chairs, boxes, old rubber boots, grease cans and nail kegs. The casual visitor might think the place the apogee of confusion, but the farmer knows where everything is—or at least can put his hands on it with a minimum of search.

Not the least satisfying is the smell. It's a wholesome, nostril-tingling aroma compounded of old leather, rubber, sawdust, cobwebs, an old horse blanket, lumber, good honest dirt on the floor, needled with the penetrating pungency of creosote and fertilizer. Of course, there is work to be done. A good farmer has his rainy-day jobs. But it's unhurried, pleasant work in the farm shop on a rainy summer day.

Thus speaks a true urban rustic. Let it never be said that even our largest city lacks pastoral aspirations and farm-minded residents.

Double your money!

FOR MANY long years "Double your money!" has been the seductive cry of the rascal bent on sucker baiting. In the old days "Rube" was supposed to be easy game, though city slickers always fell as supinely as rustics when speciously invited to double their money. But the good old farm department knows how to double the taxpayer's money—double it, did we say? That's a masterful understatement. It has been paying off scandalous percentages on investments made in scientific research—lo, these many years.

ARA officials have shown how in their new Research Achievement Sheets, worked out from suggestions made by Dallas Burch and other ARA people. Each sheet comprehensively, concisely, and informatively covers a single advance in scientific knowledge. Go back to the Gay Nineties, when Theobold Smith, F. L. Kilborne, and Cooper Curtice were settling the cattle tick-fever problem. It cost about $65,000 to make the basic discoveries required to fight the disease intelligently. *The work has been worth $40,000,000 a year ever since to stockholders in that great corporation, the U. S. A.*

Earn big interest

It cost something like $50,000 for Marion Dorset, C. N. McBryde, W. B. Niles, and others to perfect the serum-virus treatment to conquer hog cholera. The American public profits $12,000,000 annually from that investment. Around 1938 it cost about $10,000 to show that phenothiazine was a versatile drug for the control of livestock parasites. *This discovery is worth $10,000,000 or more a year to stockmen.* They owe the finding to Paul D. Harwood, Arthur Jerstad, and Leonard E. Swanson.

About the same time it was costing something like $2,500 for the American public to have Everett E. Wehr, Paul D. Harwood, and Jacob M. Shaffer develop a safe and rapid chemical treatment for removing gapeworms from chickens. By thus removing the fear of gapeworm damage, this discovery, to the extent now applied, is worth at least $25,000 annually to poultry owners. Double your money? USDA research discoveries pay off from 100 to 10,000 percent on the money invested.

Veterinarian and rugged individualist

THOUGH you'll find him behind a desk in the Department's Administration Building, Dr. Rudolph Snyder is not by nature an office man. Stocky, square-jawed, and tanned, he reminds you of an outdoor man accustomed to authority over men of similar type.

Dr. Snyder is a fighter—has been for many years—a fighter against animal diseases. Through eminent success in that field, he has earned the title of senior veterinarian in BAI and assistant chief of its Interstate Inspection Division.

When foot-and-mouth disease broke out in California back in 1924, Snyder was on the spot as the Bureau's inspector in charge of veterinary field forces in that State. The customary though drastic method of eradicating foot-and-mouth disease is to detect and promptly destroy the virus which causes it. This involves either deep burial or burning of the carcasses of infected and exposed animals. But on some of the high mountain pastures there was solid rock just below the surface, and supplies of oil or other suitable fuel for cremation were miles away—not to mention the formidable problem of bringing the fuel up steep, narrow, mountain trails.

Dynamite!

With several hundred diseased cattle on hand to dispose of promptly, Snyder weighed the situation and then sent for a box of dynamite. The afflicted animals were driven into a narrow ravine and shot with rifles. Putting charges of dynamite along the slopes above, Snyder blasted the sides of the ravine to bury the carcasses deeply. He repeated the method on several occasions.

His tenacity in carrying difficult assignments through to successful completion won for him the name "Bulldog Snyder." He has been on the disease firing line against sheep and cattle scab, hog cholera, bovine tuberculosis, dourine, and other maladies, now largely under control. His knowledge, experience, and resourcefulness raised him to administrative work in connection with animal-disease problems on a national scale, including inspections of livestock at public stockyards and en route to them.

Thus, officially, Dr. Rudolph Snyder rates as a bureaucrat, but as you see him working in his shirt sleeves, you think of him more as a practical, useful, public servant who has kept his individuality in rugged condition through 40 years of service in the USDA.—D. S. Burch, ARA.

Cherchez la femme

DID YOU ever stop to think why *USDA* contains as few errors as it does and, in general, makes a seemly typographical appearance? The editor is not responsible for this. He has the most rudimentary knowledge of orthography and punctuation imaginable. When he reads matter in print he tends to make changes for reasons of style and syntax, and can stumble unwittingly over the most glaring typographical errors imaginable. He also tends to make changes in page proofs, a direct invitation to any printer in the world to go haywire.

If you investigated you would be surprised how many scientific and professional periodicals, how many magazines and house organs, are as good as they are in detail because of the patient, dependable, long-suffering toil of a well-trained woman, an assistant editor. She puts the thing together in workmanlike fashion. She finds the loose ends of strayed galleys and gets articles in the proper order. She makes up the dummy, orders the heads and subheads around, harries the printers, inserts punctuation, doctors grammar, and performs a thousand and one tedious little jobs even editors take for granted. She is always a supreme realist. No big shot can intimidate her if he ignores the rules of good writing.

The editor may flounder around with policy and devote his time to seducing contributors into sending in material. He may be quite a guy at an "over-all level," to use picturesque bureaucratic language for a moment. His name may appear conspicuously enough to lead the unwary into thinking he is responsible for everything. Well, he isn't. Look closely enough and you will find that touch of sure, reliable craftsmanship that women seem always better able to apply than men, perhaps because they are more patient and more careful as to detail. In the case of *USDA* this irksome, ill-rewarded, and unspectacular responsibility belongs to Miss Alice Arnold—and has since its first appearance.

Why not send this copy of *USDA* to a Department man or woman in the armed forces?

Refrigerator cars—and ships

IN A recent discussion of refrigerator cars and their use, D. F. Fisher, Bureau of Plant Industry, Soils, and Agricultural Engineering specialist in fruit and vegetable handling, transportation, and storage, recalled that back in 1916 M. E. Pennington, speaking before the Chicago Traffic Club, said: "The people of the United States are as dependent upon refrigerator cars for their food supply as are people of England upon her ships." The statement is as true now as it was then, declared Mr. Fisher, pointing out that 141,000 refrigerator cars are now in use in this country.

The modern refrigerator car is a World War I "baby," which makes one look forward hopefully to the improvements that World War II experiences are certain to bring. The "U. S. standard refrigerator car" was built during World War I to specifications drafted by a committee working under the auspices of the U. S. Railroad Administration, and composed of engineers representing the Administration, refrigerator car lines, railroads, and the Department. In 1935 the Mechanical Advisory Committee of the American Railway Association drafted specifications for a new refrigerator-car building program, and again full advantage was taken of the store of data accumulated by the Department in this important field.

The refrigerator car and fast freight service make possible a continuous supply of all kinds of fresh perishable foods throughout the year. This service, too, has been responsible for the growth and prosperity of many important agricultural producing areas in locations thousands of miles distant from markets. Brawley and Salinas, Calif., Yakima and Wenatchee, Wash., and Weslaco and Crystal City, Tex., are but a few of the prosperous and progressive towns that have grown up in what, but for the refrigerator car, would still be range country or a great stretch of sagebrush waste.—John A. Ferrall, PISAE.

Brief but important

Those alphabetical agencies: Goaded by protestations over the numerous and somewhat confusing abbreviations and letters used for USDA-WFA agencies, we are going to spell out the names when they *first* appear in an article or item. However, for reasons shrouded in the mysteries of printing, this change has to be made gradually. When inconsistencies appear, please don't phone, write, or wire right away.

USDA documents: The complete list of *USDA's* mimeographed documents, now available in limited quantities, is as follows:

(1) Structure, Functions, and Origins of the Department of Agriculture and Its Constituent Agencies, 18 pp.; (2) Department of Agriculture, War Food Administration, and Constituent Agencies (Origins, Structure, Functions), a much more comprehensive compilation in 59 pp.; (3) Abridged Chronology of Agriculture's Part in the War; (4) Condensed History of the U. S. D. A.; (5) Current List of Top Officials of USDA-WFA; (6) Most Important Research Achievements of Department of Agriculture Scientists During Recent Years; (7) Outstanding Scientific Publications by USDA Research Workers Issued by the USDA; (8) Abridged List of Federal Laws Applicable to Agriculture; (9) Biographies of Persons in Charge of Federal Agricultural Work, 1836 to Date.

These are revised from time to time. Write or phone Mr. Harding, 4842; Miss Arnold, 4875; Office of Information.

First aid and emergencies: Personnel Memorandum No. P–460 says the Pers. Division of Personnel Relations and Safety will assist in every way possible to provide first-aid and emergency-room facilities. See the memo for particulars; it's available from your agency.

A Place on Earth: I have experienced a gloomy satisfaction in reading A Place on Earth (a USDA publication available from BAE). It has refreshed my own nostalgia, which is incurable and preposterous. Man is a unique animal on the planet, but he shares with other land animals the instinct for a fixed abode or home, which he will fight, if he must, to protect or retain. In cities in particular, he loses contact with Mother Earth and tends, through the centuries of recorded history, to go back to her, only to realize, to his dismay, that there is no going back.—DeWitt C. Wing, Inf., in The Land.

Mr. Label: A Department agency requested some information from a State Health Department, noting at the end of the letter that a self-addressed frank label was enclosed to cover mailing of the materials desired. The reply was addressed to Mr. Frank Label, U. S. Department of Agriculture, and the salutation read, "Dear Mr. Label." If Mr. Label will identify himself we shall be glad to tell him what the letter reported.

Shall I Be a Farmer? A booklet by this title has been prepared by Paul V. Maris, Director of FSA's Farm Ownership Division, to aid veterans interested in becoming farmers after the war. Mr. Maris drew heavily upon FSA's experience in administering the Bankhead-Jones Farm Tenant Act. Family-type farms are advocated and would-be farmers are warned not to go in debt buying land at speculative prices. The booklet also discusses the four essential requirements if a substantial degree of security is to be attained on a farm, the price ranges of family-type farms in various parts of the U. S., and the assistance that Federal and State agencies can render farm beginners. Veterans are also warned, "Cash returns from farming are likely to be disappointingly small," with 1940 Census figures to back this up.

1945 food program: Administrator's Memorandum No. 47, August 17, announced steps to begin preparation of the report to the Office of War Mobilization dealing with the 1945 food program. D. A. FitzGerald, of Prod., has been designated chairman of a committee to prepare this report, the heads of various WFA and staff agencies having been requested to designate agency representatives to serve on this committee. Agencies concerned are: AAA, BAE, CCC, Ext., B & F, OD, FAR, Inf., Labor, M & F, Price, Prod., Sol., and OT.

Northrup heads Materials and Facilities: Frederic B. Northrup now heads M & F, succeeding J. W. Millard who resigned to return to business. Mr. Northrup has been with M & F since its organization, and before that had held various responsible positions in USDA and WFA.

Becker transfers to FAR: Joseph A. Becker, chairman of the Crop Reporting Board, has been named assistant chief of the Office of Foreign Agricultural Relations, International Commodities Branch. Mr. Becker has had 26 years of experience in developing the Department work in crop and livestock estimates, having been chairman of the board and head of the crop estimating service since 1935.

Duke new War Board head: E. R. Duke, formerly manager of the Dallas office of Federal Crop Insurance Corporation, is now chairman of the National Agricultural War Board, succeeding Col. Everett R. Cook. Col. Cook transferred to the State Department.

Praise from an expert: Historian Charles Beard, into whose hands came some copies of *USDA*, recently wrote the editor: "As to *USDA*, it is full of flashing lights—facts and insights necessary to a comprehensive view of what is going on in DA." You could light a cigar with our face, we're blushing so.

Message from a ghoul: A lady wrote from North Carolina:

> I am quite sure that my address is stated correctly * * * Please send me as much material as you can spare on Human Bodies after they're Dead, Decomposition of Human Bodies or What Happens to the Human Body After It Has Been Buried, Anything about the dead or Dying, Pictures. I desire the information for my personal benefit. Then if there is any material in your office, please state price.

The letter was addressed to the Department of Morticians, Washington. Someone referred it to the Bureau of Information at 14th and Pennsylvania Ave. NW., and then it was referred to the Department of Agriculture. Don't ask us why.

Misquoted: A nameless official of USDA got sick en route and took to bed immediately on arriving at his destination. But persistent newspaper men hounded him to dress for a photograph. This he did, but couldn't find his pants. The photographer said, "Oh, no matter; we just want a bust view anyway." "Not on your life," said the official, "I find my pants first; I've already been misquoted enough."

Newspaper buys farm: One big city newspaper is going to have a staff that knows something about agriculture—or else. The Atlanta Constitution has purchased a thousand-acre Georgia farm to keep pace with "the abundant agricultural future" of that State. Here the paper's staff will study farm operation from the ground up—and down—that they may "better and more understandingly serve the vast farming population on whom they depend for their professional and economic existence." This is practical journalism that really is practical, and the New York Herald Tribune says the example could well be emulated by all great newspapers, including those of New York City!

Bobby-socks chatter: Two of USDA's juvenile employees in bobby socks were heard discussing their jobs. Said Blue Socks, "How do you like your job?" Said White Socks, "O, all right, but I'd rather be in school." Said Blue Socks, "I wouldn't. They pay you here and there's no home work."

Dehydration manual.—M. P. 540, issued June 1944, on "Vegetable and Fruit Dehydration," is a Manual for Plant Operations, prepared by AIC of ARA. It is a remarkably valuable publication. Any private organization would be proud of it; undoubtedly many will be happy to use it. It is based on the results of work hurriedly undertaken in a highly successful project initiated after Pearl Harbor and added to earlier findings. It is designed as a guide to commercial operators. Details on research findings are omitted so that material which facilitates commercial production can be stressed. All involved in the preparation of this publication merit a bow.

Library service on the run: A gentleman dashed into the Library, traveling bag in hand, and asked an assistant to find in the hearings on the Second War Powers Act, 1942, an opinion on administrative regulation and in the hearings on the Price Control Bill, 1941, a discussion of licensing by executive agencies of the Government. He would phone from the Union Station for the answer, he said. When he called, the answer was ready for him. "Thank you," said he, "I have 2 minutes to catch my train."

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USDA

FOR OCTOBER 16, 1944

Office of Experiment Stations

THE Hatch Act of March 2, 1887, which established the State agricultural experiment stations, was passed as a result of prolonged agitation by many individuals. Among them were the distinguished nutrition scientist, W. O Atwater, and Norman J. Colman, last Commissioner and first Secretary of Agriculture. The stations were placed under the State land-grant colleges to conduct experiments on agricultural subjects.

The Office of Experiment Stations was created October 1, 1888, to represent the Secretary of Agriculture in the administration of the Hatch Act. Its functions have been enlarged from time to time as supplementary legislation—notably the Adams and the Purnell Acts, and Title I of the Bankhead-Jones Act—was enacted, authorizing appropriations to the State and Territorial stations for additional specified purposes. W. O. Atwater became first Chief of OES and A. C. True was his associate.

The first aim of OES was to act as a clearing house and exchange for numerous State experiment stations which already existed in 1887. Moreover, important basic investigations in the field of human nutrition, home economics, irrigation, and farm drainage were undertaken by OES itself in early days. The Experiment Station Record began to appear in 1889.

Early achievements

It is impossible for any centralized farm research center to perform all the investigations that should be made in this huge country. It was for this reason that we urgently needed agricultural experiment stations in each State to conduct experiments under local conditions and to adapt scientific findings to regional requirements.

We owe to State experiment station work many outstanding scientific findings, one of the most famous of which was development in 1890 of the Babcock test for milk fat by Stephen Moulton Babcock of the Wisconsin station. The test soon became widely adopted. Its influence was tremendous in determining the course of the dairy industry and in fostering cooperative dairy manufacturing.

It may also be truthfully said that Atwater's work in OES during early days placed a foundation under modern nutrition science. Not only Secretary of Agriculture Morton, but also President Grover Cleveland, became interested in this work, and in the fiscal year 1894, $10,000 was granted for Atwater's further investigations.

It would be impossible here to catalogue the valuable and outstanding contributions made by the State experiment stations to agricultural science. Year after year reports from OES—some of which have already been abstracted in *USDA*—endeavor to point out the most important recent advances.

OES at war

Immediately war hit, OES and the stations converted their research projects to meet urgent emergency needs. This conversion covered all 53 stations in Alaska, Hawaii, Puerto Rico, and the various States. The new objective was to secure as promptly and effectively as possible such information of national or local scope as was required to aid farmers meet production goals and solve critical problems.

Thus station research went over to a war-emergency basis. Less critical studies were deferred for the post-war period. OES assisted the stations in reviewing all research proposals for which Federal funds were to be used and in examining progress and expenditures on the spot. Research of more than local interest was reviewed in cooperation with other agencies so that work between stations and the USDA might properly be correlated to jointly attack the problems.

The magnitude of OES's operations may be judged from the fact that 3,500 research projects under Federal grants are now active at the stations; one-fifth of these are replaced or adjusted annually. There are 1,200 formal memoranda of understanding, covering cooperation between the stations and other agencies and approved by OES before becoming operative. OES also maintains contact, at station request, with 5,000 other investigations being conducted with State funds. In the 1944 fiscal year station research was supported by $6,926,208 of Federal and about $19,000,000 of State funds.

OES advises and assists the experiment stations; reviews and approves research projects, annual programs, and budgets; examines work and expenditures; and helps coordinate station and USDA work. It also administers the Federal Experiment Station at Mayagüez, P. R., an account of the work of which will be found in *USDA* for May 27.

Since 1931 Dr. James T. Jardine has directed the activities of OES. Distinguished for his researches in range management and a former director of the Oregon station, he has brought to the job a fortunate combination of experience and wide acquaintanceship with problems and leaders in agricultural science.

Paper shortage to continue

THE paper and paperboard shortage and the large demand for these products will probably continue for 10 months after V–E Day, according to statements by the War Production Board on September 20. There are several reasons for this, WPB says.

Necessary military and civilian paper needs in liberated countries must be met. Demands for packaging materials will be increased still further by transfer of military matériel from the European to the Asiatic theaters of war. Many materials have to be repackaged. Britain has similar military packaging problems and must rely on North America for packaging supplies.

Increased commercial and industrial demands for paper will be felt by manufacturers and consumers after Germany surrenders or after WPB limitation orders in other fields are lifted. There will also be large domestic paper needs resulting from reconversion and the return of many civilian products now restricted. Paper, pulpwood, and paperboard inventories have been reported low.

All this indicates that the Government must continue to control paper, and that *we civilians must continue to salvage paper,* well into the summer of 1945 and perhaps as late as early fall of next year.

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Northrup of M & F

"I'LL take full responsibility for that, sir."

Up spake Frederic Boyd Northrup, the new director of the Office of Materials and Facilities. New on the job, and in a tough spot through no fault of his own, Northrup set his firm, square jaw, wiped a little sweat from his high, broad forehead, and said to the boss: "It's my fault."

The people associated with Northrup during his nearly nine years in the USDA and WFA were not surprised. He never lets you down, they say. Perhaps that accounts for his steady rise from "a job" in the Agricultural Adjustment Agency to chief of a section, to assistant director of a division, to assistant chief of AAA, to material control officer of USDA, to chief of the M & F Program Branch, to director of M & F.

Ask his friends to describe the man, and they invariably use two words, "enthusiasm" and "energy." What his enemies would say cannot be printed * * * because none has yet been located by *USDA*.

There's nothing forced about 44-year-old Fred Northrup's enthusiasm and energy. He gardens with the same zip that goes into his conduct of public business. He grows tomatoes that will almost match those grown by Grover Hill. In golf, by his own admission, he's pretty good. "I usually break 80," he says—"on each nine." To a casual acquaintance he appears nervous, but those around him say the appearance overlies real calm. But he doesn't get excited. Some people wish he would bang the table once in a while, that he would express stronger likes and dislikes.

His early years

Northrup neither grew up on a farm nor went to an agricultural college. This in itself sets him apart in a Department where farm and "ag" college backgrounds are often regarded as basic requirements for policy-making and many technical jobs.

He grew up in Minneapolis, spent nearly two years in Oberlin College (Ohio), and finished at Pomona College (Claremont, Calif.). His degree is an A. B. in economics. Friends educated at land-grant colleges sometimes kid him by singing part of a song, "Pomona, Pomona, Pomona."

Out of college in '22, Northrup became a bank teller in the State Bank of Pomona, but after two years he went into business with his father. That's when he started gathering agricultural experience. His father's company dealt in wholesale produce at Long Beach. In 1929 the company closed its books, and Fred went to work for an investment company. But in 1931 he was back in business with his father—this time as secretary-treasurer of the company, handling carlot-produce shipping operations in Minneapolis.

His Government career

His first job with the Government started in August 1934. NRA needed a man with experience in the produce business, and Fred became an assistant deputy administrator in the food division. In November 1935, he started work for the Triple-A. He went through the trials and tribulations of the period when the first AAA act was declared unconstitutional and the outfit was reorganized along regional lines for soil conservation work. He landed in the Northeast Division.

Shortly afterward the Warren Potato Act was declared unconstitutional, and it was his job to get back the unissued potato allotment stamps. In reminiscent mood he can see himself yet, surrounded by stacks of stamps, trying to keep an inventory, discovering they had a value among collectors, getting a key for his office door, finally getting space in a vault, getting the plagued things off his hands through official channels.

He had to "learn his way around," and knowing the way around is more than ever important now that he has major responsibility for supplies, machinery, materials, and facilities used in producing and processing food for war. The public will benefit further from the enthusiasm and energy of which he has so much.—MAURICE L. DUMARS, *Inf.*

Florence Hedges retires

COMPLETING 42 years of research work in the Department, Florence Hedges, associate pathologist in the Bureau of Plant Industry, Soils, and Agricultural Engineering, retired September 30, a bit in advance of the 70-year deadline. She wanted the extra time to carry out a number of personal projects she has had in mind a long while! Her departure further thins the ranks of the pioneer women scientists who startled the men in the early days of the Bureau by taking to the work "like ducks to water." As one of Miss Hedges' early chiefs wrote of her: "She's as good as any man; and better than a lot of them!"

She came to the Bureau in 1902, with her A. B. from Michigan, and joined the staff of the Laboratory of Plant Pathology. With a half-dozen other women research workers, she aided the late Dr. Erwin F. Smith in building up an international reputation for the Laboratory. She promptly demonstrated marked ability in conducting original research in bacterial and fungus diseases of plants. Of late years she has centered her attention on the bacterial diseases of peas and beans, to which work she has made outstanding contributions, as witnessed by the long list of her scientific publications in Department series and outside journals.

Taxes and us

THROUGHOUT time the tax gatherer has been disliked. He was more inclined to be an object of public hostility and apprehension than one of popular esteem. Only one person in history ever professed an urgent desire to pay out as much in taxes as possible, and the fine hand of this glamorous film star's public relations counsel can be detected even here.

Today the American people are paying more taxes than they ever did. Millions hitherto untaxed are now called upon to pay substantial sums directly to the Federal Government, too. They are quite properly more concerned with the way in which Federal agencies expend the funds entrusted to them. They are concerned with the efficiency achieved by Government workers who are paid by these taxes. We should be able to prove by accurate records that the USDA expends public funds with due regard for economy and efficiency.

Better management

When the Office of Distribution makes computed annual savings of $13,724.88, as it has in its program for the receipt, storage, and transportation of commodities purchased, that is not only something for us to be proud of. It also offers solace to taxpayers. When the Rural Electrification Administration reduced the number of operations, of reports and forms used, of people concerned, and of man-hours required in the matter of advancing loan funds to borrowers, it was performing a real service to our employer, the American public.

When the Office of the Solicitor—by consolidating 43 unrelated and specialized groups into 12 field offices and realigning their functions under 6 associate solicitors—effected a 30 percent reduction in personnel required, cut expenses for personal services nearly half a million dollars, and saved $19,000 in travel expenses, between July 1, 1942, and De-

cember 28, 1943, it was chalking up a management-improvement record that should assuage any taxpayer.

These changes may not be earth-shaking. When the Farm Security Administration reduces the work load in obtaining and handling Selective Service information in a regional office by 360 man-hours, with a 50 percent reduction in materials, the release of filing space for other use, and a considerable conservation of physical energy, that may seem trifling to some But you can bet the fellow who foots the bills would be happy to know about these and other tangible results of the Department's management-improvement program, and that is what counts.

The Duke

ACCOMPANIED by Lt. Col. Henry Walsh, Assistant Director of the War Food Administration's Office of Labor, and other OL representatives, the Duke of Windsor, Governor of the Bahamas. visited two groups of Bahamian farm workers in Sussex County, Del., August 8. In the course of his inspection, he gave a cooking lesson, learned to pick peaches, and started an argument by insisting that cottage cheese was the same as Cornish cream.

"What's this?" the Duke asked suddenly as he bit into a sandwich during lunch in the mess hall at the Coolspring farm labor-supply center.

"It's cottage cheese," volunteered M. E. Hays, of OL, who was sitting next to him.

And cottage cheese

"Same thing as Cornish cream," declared the Duke.

"I don't think so," Hays said, but he couldn't convince the Duke.

Earlier, the Duke had visited the kitchen and advised the chef, Whitfield Bethell, on how to prepare beef stew and black-eyed peas with rice. "Cook it first and stew it afterward," was his tip. "The men like their food thoroughly prepared."

"I know," agreed the cook. "I used to cook for you in Nassau."

The Duke's former ice-cream maker, G. Oswald Francis, also was there, and apologized because he was unable to prepare a Francis sanitary special, the Nassau version of a sundae.

At the orchard of William L. Chandler, at Milton, Bahamian workers showed the Duke how to pick peaches. "You only pick 'em soft," one of the workers coached him.—Lloyd Jones, *Office of Labor.*

Office of Production

THE Office of Production is another lusty infant insofar as age is concerned. One of its constituent agencies, the Federal Crop Insurance Corporation, dates back to Title V of the Agricultural Adjustment Act of 1938. But Prod. itself had its beginning when the Department was reorganized December 10, 1942, as a result of an Executive Order dated 5 days earlier.

At that time the Food Production Administration was established. In it were consolidated the Agricultural Conservation and Adjustment Administration (except the Sugar Agency), the Farm Credit Administration, the Farm Security Administration, that part of the Division of Farm Management and Costs (Bureau of Agricultural Economics) concerned primarily with planning current production, that part of the Office for Agricultural War Relations concerned primarily with food production, and the Office of Land Use Coordination.

It may be remembered that ACAA was a consolidation, made in December 1941, of the Agricultural Adjustment Agency, the Soil Conservation Service, FCIC, and the Sugar Division. The new agency, Prod., was designed to consolidate all crop and food production activities of the Department.

When the War Food Administration was established as a result of Executive Orders dated March 26 and April 19, 1943, Prod. continued as FPA and became a part of WFA. But FCA then became an independent agency under the Secretary. On January 21, 1944, the name of the agency was changed to Office of Production, while AAA, FSA, and SCS then became independent agencies under the War Food Administrator.

Structure and functions

The primary responsibility of Prod. is the work of developing and coordinating production goals—the pattern for U. S. agricultural production. Correct appraisal of many factors must be utilized in establishing goals. These include: Foreign market demand, as affected by military and relief needs and by commercial export policies; domestic buying power, tied to the level of future industrial activity; availability of materials and facilities; efficient land use; and inter-relationships among various crops. Much of this is coordination work, Prod. drawing upon BAE and many of the action agencies for specific information. It is a "staff" job for WFA.

The head of Prod. is known as the Director of Food Production. J. B. Hutson, the Director, is also President of the Commodity Credit Corporation. In addition to the Director's Office, Prod. now consists of two administrative branches.

Its Crop Production Branch takes the initiative in establishing crop-production goals. It also represents Prod. on Department-wide commodity committees concerned with crop production and prices. It reviews and analyzes existing crop-production programs, recommending desirable modifications. This Branch also considers the need for new programs or for changes in emphasis on existing programs needed to achieve crop-production goals. Finally, it evaluates the situation with regard to materials and facilities necessary to the achievement of the goals and makes pertinent recommendations thereto.

In addition to livestock-production goal work, Prod.'s Feed Management Branch plans and directs the execution of national programs to secure the most effective distribution and utilization of grain and other livestock feeds necessary to maintain the proper balance between livestock production and available feed supplies. It also advises with other WFA agencies on questions of price, materials, and facilities—as related to livestock production or feed use.

Finally, FCIC, which reports administratively to Prod., is an agency with Bureau status which provides insurance against crop losses from unavoidable hazards and some war-related risks on growing wheat and cotton. It insured the 1939–43 wheat and the 1942–43 cotton crops. It is now in process of liquidation. In accordance with the 1944 Agricultural Appropriation Act no further insurance may be written, funds having been provided only for insurance on crops planted before July 31, 1943.

Roosters

USDA comes from very pastoral surroundings. Bucolic sounds and aromas assail us. Whenever we get down early in the morning, and we *do* mean early, several roosters are blasting away near our office. Their crowing also sings out at us merrily on Sundays when most offices and laboratories are stilled in Sabbath calm. We looked in their laboratory one day. They were arrogant fellows, quite content with their lot in the world.

This led us to inquiry. Ralph Erskine, of the Bureau of Animal Industry, suggested we call on Percy W. Leduc, and so we did. We found him in a laboratory in the same old West Wing (Theodore Roosevelt and "Tama" Jim Wilson vin-

tage) in which our office is located. He, incidentally, is the nephew—a younger son of a younger brother—of William G. Leduc, who was appointed Commissioner of Agriculture by President Hayes on July 1, 1877. For your information, he does *not* resemble a relic at all.

Leduc took us around a corner to another laboratory where we met Scientist N. L. Mohler, son of the former chief of BAI, hard at work. Here, in casual, informal conversation, it developed that the roosters, arrogant or not, were doing their bit scientifically to differentiate between avian, bovine, and human strains of the tuberculosis bacillus. They also have other scientific obligations, and are not kept around merely to make the hens contented.

Lion with tummy ache

Other things were around too. There was the head of a lion in the icebox, in case anybody wanted a cold cut. This fellow had just died suddenly in Washington—at the Zoo of course—and BAI scientists opened him up post-mortem to try to find out why. They found out. Acute gastritis! Lots of lions and tigers have gastritis, they told us. Even boa constrictors!

Then they began to tell how a big boa constrictor with indigestion had to be strapped down a while back to treat him with drugs for his gastritis. He made a rather restive and unruly patient, but he recovered. Seems BAI gets many such calls from the Zoo, but the giraffe it treated didn't have sore throat. It was uremic poisoning. Anyway that gives you an idea of the surroundings in which *USDA* is edited and of why the roosters are here.

Reward of merit

WHEN, in June 1918, Paul M. Williams entered the Market News Service, David F. Houston, with his elaborate string of degrees, sat in the Secretary's office in the old red brick building. Williams came from the Middle West, with a business background which had prejudiced him in favor of accurate labeling in marketing agricultural products. He lived to put his theories into practice and is now Assistant Chief of the Fruit and Vegetable Branch in the Office of Distribution.

In 1931, when the Processed Products Standardization Inspection Section began work, Williams and one assistant constituted the staff. Since then the unit has developed 75 new standards for processed foods and has the largest staff in the Branch. Among other things it inspects all military purchases of processed fruits and vegetables. It also provides continuous factory inspection service for processors who agree to meet Department requirements at their own expense.

Such processors, who operate under rigid sanitary conditions, sell their products under U. S. standards. You can find them on grocery shelves with U. S. Grade A, B, or C on the labels, and you can depend that the product inside corresponds to the grade on the label. But all this constitutes no attack upon brand names whatever. These, Williams holds, should always be protected, but can be fortified in the consumer mind by association with definite U. S. grades, which promote fair dealing and aid processors, distributors, and consumers alike.

Scope and magnitude

During the war Williams' staff have had many and varied duties, not confined to probing for defects in canned corn or making specific gravity tests on tomato catsup. One inspector operated with the British-American Food Mission after the North African invasion; other inspectors were assigned to assist producers in Cuba, Mexico, and Argentina.

During the 1944 fiscal year more than 522,000,000 units of processed foods were inspected. This resulted in the collection of nearly 2 million dollars in fees. It was accomplished with a skeleton corps of inspectors and involved far-reaching research programs.

The trifling salary increase which accompanied Williams' recent meritorious promotion is no measure whatever of his service to the public. It does constitute official recognition of the esteem in which he is held, an esteem shared by all his aides and by the processing industries they serve. It constitutes tribute to his work performance and imagination. It honors a public servant with the courage, foresight, resourcefulness, and the rugged determination to exceed his mere job requirements in serving his employers, the people of the United States.

Brief but important

Dr. Dykstra back from China: Theodore P. Dykstra, of the Bureau of Plant Industry, Soils, and Agricultural Engineering, recently returned from China, where, under the Department of State's cultural cooperation program, he worked for 20 months with the Chinese Ministry of Agriculture and Forestry in developing a national potato-production and research program. He took with him 52 American potato varieties to be tested for adaptability in China. Four proved promising and 500 pounds of these were shipped to China for planting last spring.

Thank you: The editor had a dozen or so written replies from employees to the questions he asked in the September 4 issue about your satisfaction with *USDA*. In addition, perhaps twice as many phoned in, called, or stopped the editor en route to express an opinion. All opinions so given were favorable. There were no dissidents, which somehow vaguely alarms us. We hope we are right in concluding that *USDA* does please its public. So far we have had but one employee-reader during the past year who assured us *USDA* was worthless and should be discontinued. That made us mildly unhappy until the recent demonstration heartened us again. Thanks a lot.

SCS authors: In the New York Herald Tribune Book Review for September 24, Walter C. Lowdermilk, Assistant Chief of Soil Conservation Service and author of that excellent book, Palestine, Land of Promise, reviewed another excellent book, Natural Principles of Land Use, by Edward H. Graham, Chief of SCS's Biology Division. A reading of both books would be admirable for all employees who can get hold of them.

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USDA

FOR OCTOBER 30, 1944

Soil Conservation Service

WE THE PEOPLE were traveling at high speed along the road of sheet erosion, gullied corn and cotton lands, dusty overgrazed rangeland, and even roving sand dunes on the plowed plains, when in 1929 soil erosion was formally recognized by the Federal Government as a menace to the Nation's agriculture. In that year the Department established 10 soil-erosion experiment stations in major agricultural regions to conduct fundamental research into the causes of erosion and to develop corrective practices. Four years later a Federal Soil Erosion Service was established as an emergency action agency to inaugurate a Nation-wide erosion-control program. Then in 1935 a Soil Conservation Act was passed by Congress, creating a permanent Soil Conservation Service to absorb the earlier Soil Erosion Service and other erosion-control activities.

Hugh Hammond Bennett, with a boyhood background of life on a worn-out North Carolina Piedmont farm and an unquenchable zeal for conservation of America's farm lands, was made Chief of the new organization. For a quarter of a century he had been preaching erosion control all up and down the country—"Know your soils, stop the gullying, blanket the land with vegetation, take care of our land." He is still preaching soil conservation, and he is still Chief of SCS.

The SCS program consists of simultaneous action on five different fronts: Research; surveys and mapping; information and education; direct technical assistance to farmers and rangemen, particularly in soil-conservation districts; and development of conservation land use for unproductive or eroded lands purchased by the Federal Government. Historically, one of the first and most significant undertakings of SCS was a reconnaissance survey of the nature and extent of soil erosion over the entire country.

A menacing problem

The seriousness of the erosion problem as revealed by this survey was jolting, to say the least, even to those well acquainted with the subject. It was learned that 282,000,000 acres had been so severely damaged by erosion that their further use for crops or grazing would be unprofitable. Another 775,000,000 acres were so severely damaged as to require immediate control measures to insure continued productivity. Another 144,000,000 acres were wastelands, roads, and other lands of no agricultural value. The results of this survey, published in 1935, had a pronounced effect in creating public interest in a national soil-conservation program.

In those days of drought, dust, and economic depression, the job ahead loomed gigantic to SCS technical men faced with planning all possible means of getting soil conservation on those millions of acres. But by this time, studies carried out by the erosion experiment stations, in cooperation with State experiment stations, had proved beyond a doubt that with proper cropping and conservation farming methods, regrassing or reforestation in most critical areas, and mechanical structures where necessary, soil and water losses could be reduced quickly, usually to a minimum, and per acre yields considerably increased.

By this time, too, the work had spread to farm lands in demonstration projects. Civilian Conservation Corps camps were assigned to SCS, and soon trees were being planted by millions on slopes gashed by gullies. Regrassing was started in the Plains. The job of reclaiming 12,000,000 acres of wet lands was well under way. And, spreading widely over the country among farmers and range people was the soil conservation "state of mind" essential to a program designed for the whole of the agricultural land of the Nation.

Meeting the challenge

Farm and range people then began reaching out to grasp the soil conservation program—when in 1937 they began forming soil-conservation districts under State laws. By the end of 1941, when the U. S. entered the war, 642 such districts, covering 377,000,000 acres, had been formed, and tens of thousands of farmers were cashing in on higher per acre yields through conservation farming. During 3 years of war, 502 additional soil-conservation districts have been organized, making a total of 1,144, covering 636,607,468 acres and including 2,966,463 farms. This is about one-half of all the agricultural land in the country.

The job of SCS is to serve these soil-conservation districts, directly on the ground, through its planning technicians and other soil-conservation specialists who live and work within the boundaries of districts. They survey every square yard of the land, provide farmers with plans of their farms, and assist in getting the plans to working for war production through higher per acre yields of war crops. To date, through this farm-conservation movement, nearly 113,000,000 acres have been covered by SCS farm planners, and complete conservation treatment has been applied to approximately 66,000,000 acres.

This land has been put to profitable use according to its capabilities, and is now farmed by the soil and water conservation practices necessary to improve and maintain fertility, control water and wind erosion, and increase per acre yields. All the idle land found on these farms before planning—nearly 2,000,000 acres—is now being put to use, for pasture or range, for cultivation of war crops, for permanent hay, or for woodland, orchard and vineyard, or wildlife.

Soil conservation has passed its most rigorous test during this period of wartime production, with limited labor, equipment, and materials. SCS looks eagerly forward toward a post-war future of speeding up the work, so that planning and technical aid to farmers can catch up with soil-conservation district organization.—PHOEBE FARIS, SCS.

FSA man aids food production: Col. Hugh B. Hester, U. S. Army Services of Supply, wrote C. H. Wilson, Farm Security Administration area director in Denver, Colo., that 1st Lt. Howard B. Roylance, formerly with FSA, "has rendered invaluable service in an advisory capacity to the (Australian) Commonwealth Department of Commerce and Agriculture, the Vegetable Seeds Committee, the Lend Lease Mission, and Australian agriculturists" in connection with many activities "on the Australian food production front."

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Bruton of OL

THE DAY America went to war with Germany and Japan, Brig. Gen. Philip G. Bruton, Director, Office of Labor, was at work in his office in Fort Pepperrell, at St. John's, Newfoundland. That he knew this country might find itself at war with the Axis, there was no doubt. He was in charge of a project being carried out in preparation for just such an eventuality—the construction of U. S. military bases in Newfoundland and Labrador.

But what he didn't know, and couldn't have imagined, was that after he had finished his work on the North Atlantic bases, his next war job was going to be helping farmers of the U. S. overcome their manpower shortage.

He didn't know of it until the early part of 1943. He had just returned to this country. At the time, the War Department, at the request of the Secretary of Agriculture, had just agreed to loan an officer of the Corps of Engineers to the USDA to direct the importation, housing, and supervision of foreign farm workers. And General Bruton, then a colonel, drew the assignment.

This new work was not greatly different from the many other important assignments General Bruton has handled throughout his Army career. The chief difference was a change in his field of operations. Actually the qualifications for the job—organizing ability and administrative "drive"—were much the same as had been required in laying out air bases in the far North, an achievement for which he has been awarded the Legion of Merit.

As General Bruton was assuming his new duties, the War Food Administration came into being. He was appointed Director of Interstate and Foreign Labor. When Judge Marvin Jones became War Food Administrator in June 1943, he appointed General Bruton Deputy Administrator in charge of the newly created OL. Later the title was changed to Director of Labor, in which capacity he has served since. On May 25 of this year he received his Army promotion to the rank of Brigadier General.

All of his life the General has had a steady diet of varied experiences and travel. He was born in San Francisco in 1891, but didn't stay there long. He grew up in Woodland, Calif., where he experienced the earthquake of 1906 and saw San Francisco, 70 miles away, afire. He played rugby on his high-school team—American football was banned in California at that time. After his graduation from the California Polytechnic College of Engineering at Oakland in 1915, he began a career as a civil engineer which was cut short by the first World War.

Army career

General Bruton entered the Army in August 1917 as a second lieutenant in the Aviation Section of the Signal Corps and inspected airplane production in plants at Pittsburgh, Pa., and Buffalo, N. Y.

In 1920 he transferred to the Corps of Engineers. He first did harbor and breakwater work on the Great Lakes in the Buffalo District, then was transferred to the famous Sixth Engineers of the Third Division on that Division's return from Germany. He was at the Presidio in San Francisco for 2 years. In 1924 he went to the Philippines, serving under General MacArthur for 3 years as a Captain of Engineers in charge of surveying and laying out defense positions on the Bataan Peninsula.

From 1927 to 1933 General Bruton was first with the Second Engineers at El Paso, Tex., and later did flood control and jetty construction on the lower Mississippi River in the New Orleans District. From 1933 to 1936 he was one of a group of officers, in the Office of the Chief of Engineers in Washington, D. C., who designed and supervised the building of the Fort Peck and Bonneville Dams and a series of locks and dams on the Mississippi from St. Louis to St. Paul.

Then followed a year at the Command and General Staff School at Fort Leavenworth, after which General Bruton went to the New York District as Chief of Operations in charge of deepening the channel of New York harbor and of the Hudson River up to Forty-second Street, and of deepening and widening the New York State barge canal from Albany to Oswego.

In 1938 General Bruton went again to the Buffalo District, where he had started with the Corps of Engineers, this time as the District Engineer. While there he assisted in the making of plans for the St. Lawrence waterway. In the fall of 1940 he undertook the exploration, location, planning, and construction of the northern defense bases.

While up north, the General was lost once when his Douglas Dolphin plane had to make a forced landing on the wild Labrador coast, and searching parties were unable to find him because of dense fog and storm conditions. He and his crew floated in the plane for 2 days, and then the weather cleared sufficiently for them to take off and return to their base.

General and Mrs. Bruton have one daughter, who is married to a Major of Engineers. His hobby, the general says, is his grandchildren.—LLOYD JONES, OL.

Doc Wiley again

USDA mentioned Dr. Harvey W. Wiley, long chief of the old Bureau of Chemistry, in the April 1 issue because it was desired to run an account of his accomplishments along with those of Dr. Atwater. His centenary actually occurred October 18, however. It was celebrated by a big dinner at the Hotel Commodore, New York City, engineered by the American Chemical Society's Division of Food and Agricultural Chemistry.

The day was filled with the delivery of scientific papers, the date of the dinner actually being September 12. Dr. Andrew L. Winton, leading authority on food composition, was toastmaster; like Wiley he was long a USDA employee. The principal address was delivered by Dr. Charles A. Browne, retired from our Bureau of Agricultural and Industrial Chemistry, and long chief of the Sugar Laboratory in the old Bureau of Chemistry.

Others who spoke were Mrs. Harvey W. Wiley; Dr. Mary Pennington, one of the Bureau's and USDA's early women chemists and a most distinguished one at that (she has won renown in the field of food refrigeration); Miss Anne Pierce, one-time secretary to Dr. Wiley; and Dr. Henry A. Huston, who reminisced about Wiley *before* the latter entered Agriculture in 1884!

The famous "poison squad" was represented by Dr. Fred C. Weber, who was in charge of it so many years ago, and Dr. Herbert C. Gore, who sat at the table and ate "poison"! Many others, whose names older employees would recognize, were present or sent letters, including J. A. LeClerc, Robert A. Allen, Clement C. Brinton, Nellie Parkinson, Charles L. Parsons, president of the American Chemical Society, Paul B. Dunbar, Commissioner of Food and Drugs, Fred B. Linton, and E. M. Chace. Incidentally, those who remember him will be grieved to hear of the death in retirement of John Parker Divine, so long associated with the old Bureau of Chemistry.

Post-war activities

ARE you interested in the Department's post-war planning programs? If so, in which phase of them? There are now within the Department 25 separate working groups assigned to formulate policy on as many activities pertaining to post-war agriculture. Each group is headed by a subject-matter specialist and has an information representative.

There is also issued monthly a mimeographed letter to chairmen of regional committees on post-war programs, regional activity leaders, and others concerned with post-war programs for agriculture. It presents a round-up on post-war program activities.

It is extremely important that there be State and local discussion in the formulation of post-war plans. All the thinking must not be done in Washington. If you are interested in these programs, get in touch with Stanley H. Gaines, Office of Information.

Plant and Operations

CERTAIN agencies of the Department work hard to keep the machinery oiled and in running order. Their complex, multifarious, and often intricate services come to be accepted by the rest of us without a thought of what might happen in their absence. Such an agency is the Office of Plant and Operations, a staff agency—now composed of seven organizational units—of which Arthur B. Thatcher is Chief.

This agency is responsible for the conservation and utilization of all equipment resources of the Department and the War Food Administration. It develops standard specifications when engineering principles are involved and decides all controversial engineering questions concerned with contract awards. It is in charge of housing all departmental activities in Washington and in the field. It has responsibility for communications, including records management, central storeroom and supply, motor transport, and photographic and duplicating services.

P & O also handles our relationships on property utilization with the Bureau of the Budget and the Procurement Division of the Treasury. It is our representative on the technical operational services of topographic and planimetric mapping operations, and maintains liaison with the Bureau of the Budget on map-production methods, costs, and operations, and with the War and Navy Departments on aerial photography.

The Secretary, by Memorandum 646, May 17, 1934, set up the Division of Operations at the same time that the Offices of Personnel and of Budget and Finance were reconstituted in somewhat their present form. But the Division actually was an outgrowth of the Office of Chief Clerk of the Department, established by the organic act of May 15, 1862. This act specifically authorized the Commissioner of Agriculture to appoint a Chief Clerk. On February 13, 1934, the name of the Office of the Chief Clerk was changed to Division of Operations.

The set-up today

In order to meet the rapidly expanding needs of the Department, the Secretary, effective March 1, 1939, changed this to Office of Plant and Operations, at the same time greatly increasing the unit's functions and responsibilities. At that time P & O was given responsibility for general supervision of the Technical Advisory Board and for the service and management functions at the Beltsville Research Center, the latter having been transferred to the Agricultural Research Administration December 13, 1941.

Various other changes in and additions to the functions of P & O have been made since March 1, 1939. On May 1, 1942, the following were transferred to it from B & F: Central Supply Section; Passenger Transportation Unit; and Surplus Property Unit. The departmental photographic and duplicating services were transferred to P & O from the Office of Information July 1, 1943.

The Chief of P & O is Equipment Conservator, Mileage Administrator, and Real Estate Officer for the Department.

Without the services of P & O the wheels would not go round. We should think of it every time we use a phone, request more space, order a pencil, or take a field trip. If you want to know how strict a property custodian it can be, try to walk out of a Department building in Washington with your own typewriter under your arm, without a release from Thatcher! We tried once; but we had to get a release. Like all staff agencies, P & O serves USDA and WFA with equal efficiency and willingness.

Training administrative personnel

DR. F. M. DAVENPORT, chairman of the Council of Personnel Administration, Civil Service Commission, has proposed a plan for centralized training of administrative service personnel, a relatively neglected field heretofore. Relatively few employees in any one agency need such specialized training at any one time, such as those who work in personnel, budget, finance, and organizational units. Hence the proposal for centralized training and the need for a common understanding of the basic policies and procedures required in the administration of Government business.

Director W. A. Jump (Budget and Finance) spoke on this subject at a recent Training Council luncheon in Washington. He emphasized the comparative lack of adequate training for administrative employees, the urgent need for it, especially in the middle brackets, composed as they are of individuals upon the basis of whose presentations and analyses policies are ultimately determined, and the fundamental importance of the program proposed. At the same time he presented an outline of what might constitute such a training course. The training of administrative officials cannot safely be left to chance. Widespread support of this program is urged.

Better management

AT A conference on the improvement of management and manpower utilization, held recently with Under Secretary Hill as chairman, many interesting examples were given, especially by F. H. Spencer, Assistant Chief of the Bureau of Entomology and Plant Quarantine. For one thing, the Bureau had repeatedly asked the question whether certain work had to be done at all, and, if not, had discontinued it.

Thus, freight cars moving into the United States from Mexico were fumigated with hydrocyanic acid to make certain that no pink bollworms remained in them. This was done as a matter of course with all cars having cargoes of cottonseed or originating where cotton was grown in Mexico. But surveys were instituted which proved that no pink bollworm existed in certain parts of Mexico. Hence cars known to have been within only those areas were no longer fumigated, saving much in time, labor, and materials—not to mention the actual cash so badly needed to finance other urgent inspection work.

Again, labor-saving devices were utilized with the greatest possible efficiency. To distribute grasshopper bait, the Bureau used power spreaders, one of which put down as much daily as 10 or 12 men could with hand spreaders. Sawdust was loaded and unloaded with a power blower, a 2-man crew doing as much as an 8-man crew could do formerly working with shovels. Large quantities of bait were spread from airplanes.

Administrative procedures and directions were simplified and streamlined as much as possible, partly by putting them in readily comprehensible English. Workers on the firing line and at the bottom of the scale were invited to attend work-plan conferences and were listened to attentively and with respect by the big bosses, for they had many suggestions which improved efficiency.

These are mere samples of the type of thing every Department agency is now doing to improve management, utilize personnel more efficiently, and give taxpayers better value for their money. We said sometime ago in *USDA* that this drive means business. It does, and it is already accomplishing results in which legitimate pride can be taken.

Gal with tired voice

PROBABLY nothing on earth is so exasperating as to phone some large institution—say a big manufacturing concern—to pour your troubles out tumultuously and then have the gal with the tired voice who answers you say: "Oh, you'll have to ask Mr. Vittysunk about that." Sometimes she connects you with Mr. Vittysunk, too, though sometimes not.

If she does, you pour your woes out again only to have another girl with a still more weary voice say: "Oh, that's Dr. Flannelcake's department." Finally you get Dr. Flannelcake's tired-voiced girl and she directs you to Mr. Salsify. At last you have connected. Mr. Salsify proves to be the man you want, but he is: (1) Away on leave; (2) home sitting up with a sick goldfish; (3) on a field trip; (4) in conference till the second Thursday next week at 2 p. m.

Mr. Salsify

At this point you simply explode with a loud detonation and break all the windows in the place. But if you do that, so do taxpayers. Many a taxpayer has contracted chronic spontaneous combustion of the larynx phoning around Government agencies trying to find the right Mr. Salsify. One big trouble is that no one else will volunteer to say anything authoritative about Mr. Salsify's work if Mr. Salsify isn't there.

There may be reasons for this, but the taxpayer doesn't know them. Perhaps Mr. Salsify is jealous of his prerogatives and functions, or perhaps other people are just too indifferent and lazy to learn enough about his work to answer simple questions regarding it over the phone. In any case, we should never let such telephone queries enrage those who make them.

At very least we can listen to the story poured into our ear, get the phone number of the caller, then procure the information ourselves and phone the caller back. This we should always do unless we know precisely to whom the person should talk and unless we see to it that the connection is made, or unless we ourselves certainly know the right answer.

Right food—longer life!

EAT the right food day after day and add years to your life. That's the advice of Dr. Henry C. Sherman, former chief of the Bureau of Human Nutrition and Home Economics, whose bulletin, Principles of Nutrition and Nutritive Value of Food (MP 546), recently came off the press. You are strongly advised to get a copy of this bulletin—Washington people pick it up in the Patio and field people write the Office of Information—and read it carefully. It is sound, authentic, and readable.

Dr. Sherman points out that the old theory that longevity depends entirely on heredity has been displaced by the now fully demonstrated fact that nutrition, as well as heredity, plays a major part in determining the length and vigor of normal lives. The science of nutrition offers extra years—perhaps 7 to 10 of them—that are not to be thought of as added to old age. Rather, they are inserted at the prime of life, while old age is postponed.

No mystery

There's nothing mysterious about good nutrition, Dr. Sherman points out. He discusses calories, proteins, minerals, and vitamins and gives the nutritive values of various foods and food groups. For most Americans, that extra something that can add to the good years of life is simply a matter of getting more milk or its products and more fruits and vegetables in meals. Often even people who consider themselves well nourished can profit by adding more of these to their diet.

The appearance of this bulletin marks important anniversaries in the science of nutrition. For W. O. Atwater, one of the pioneers of this science, was born a century ago (*USDA* April 1). Half a century ago, in 1894, Congress first recognized human nutrition as a matter of public concern by making an appropriation for work in this field. That work was first directed by Dr. Atwater, and Dr. Sherman was at one time his assistant. As a tribute to Dr. Atwater, MP 546 has been given the same title as Farmers' Bulletin 142, which he prepared in 1901 and which has long been out of print.

Double feature: As an extra dividend to our readers, the November 13 issue of *USDA* will be an 8-pager. This is in addition to the 8-page issues appearing regularly every 3 months, and is made possible partly by printing funds saved by not running illustrations for the duration.

Brief but important

Personnel suggests: That you procure copies of the Civil Service Commission's two publications, Your Retirement System and Retirement in Brief, *through your own agency personnel channels.* The Office of Personnel also wishes you to know that you are entitled to a copy of your job description as typed on your official appointment paper or on a sheet attached thereto. It is entirely proper for you to notify your superior or your personnel officer if you think your duties have changed. For details consult Personnel Circular 93, Revision II, issued September 16. *Again apply for it through your own agency channels.*

In FAR: When Don F. Christy resigned as Assistant Director of the Office of Foreign Agricultural Relations, Francis A. Flood and Dr. A. Rex Johnson were named Assistant Directors. A Technical Collaboration Branch has also been organized under Dr. Ross E. Moore to administer technical activities the Department conducts abroad in cooperation with foreign governments.

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USDA

FOR NOVEMBER 13, 1944

Office of Distribution

THE PRESENT AGENCY known as the Office of Distribution has had its share of the shake-ups and growing pains that are the birthright of any war agency. Here's the count: The Surplus Marketing Administration, the Agricultural Marketing Service (except the Crop Reporting Board), and the Commodity Exchange Administration were merged into one agency and tagged the Agricultural Marketing Administration in February 1942, under the direction of Roy Hendrickson.

From this beginning emerged the Food Distribution Administration, an agency that hovered within the War Food Administration. It was at this time that the Sugar Agency, and also the Food Division and other food units of the War Production Board, were added. This Administration within an administration was dissolved January 21, 1944, when FDA became OD. The Director of Distribution is Lee Marshall. His agency is responsible for all procurement, stockpiling, storage, and distribution of food by WFA.

Development of what is now OD reads like a procession of Executive Orders, memos, statutes, reorganization plans. directives, et al. It is sufficient to say that the agencies that became OD were important and expanding in peacetime. OD has become even more important in wartime.

Its chief function is the fair distribution of the Nation's food supplies among the major claimants: Our armed forces, our civilians, our fighting Allies, and liberated countries. This problem of equitable channeling of food among legitimate claimants has been solved mainly through systems of allocation. Allocations are backed by food orders which exercise control at the processing level, just as rationing is the great leveler at the consumer end.

That's the over-all view of OD's place in the war food scheme. Closer examination discloses a more intricate machine.

Allocations

Let us consider allocations first. Allocating food in wartime is a continuing process of dividing food supplies among various claimants. Since there is only so much food to distribute, and because demand is frequently greater than supply, it is necessary to say "how much" for each claimant. Claimant agencies state their needs. These are considered by OD and allowed according to total supply and relative need of claimants. Allocations are made 12 months in advance, but since they are determined from estimated production and supplies, they are positive for only 3-month periods.

A food distribution program needs "implementation." To implement is to fulfill, to carry out. This involves the granting of broad legal controls. An Executive Order made it possible to "take all appropriate steps to insure the efficient and proper distribution of the available supply of food." This authority has been translated into a comprehensive series of War Food Orders which include provisions for set-asides, restrictions, and conservation. These WFO's enable OD to use food as a weapon.

Do you recall when we had trouble getting butter for the Army in the fall of 1942? Various procurement measures were tried, and then OD hit on a set-aside order. As it operated from April through September of this year, the set-aside required every manufacturer producing over 12,000 pounds of butter in any month to set aside a specified percentage of his production for sale to designated Government agencies. This percentage was adjusted according to production so that most of the supply needed by Government agencies for military and lend-lease purposes is acquired when production is relatively heavy. That was WFO No. 2.

When the Army and the Navy decided last year that every soldier and sailor, here and abroad, was going to have turkey for his holiday dinners, a set-aside was placed in operation. When enough birds were rounded up to fill requirements, the set-aside was lifted. WFO No. 71 did that job. This year it's WFO No. 106.

The count on WFO's dealing with distribution from January 1943 to October 1944 was 121, but 48 of them have been canceled mainly because of improvement in supplies. It is an OD policy to remove restrictions immediately when the emergency is over and the order has fulfilled its need. Many of the food orders still in effect are expected to be written off the books after V–E Day.

Procurement

Food procurement is OD's largest "action program." In reality it is a combination of programs that embrace price support, expansion of storage facilities, standardization and inspection, food orders, rationing, labor recruitment, development of new processing techniques, and others.

What happens to this food that is set aside, purchased, or stockpiled by OD? *Food for our Allies, food for prisoners of war, food for the Caribbean area, food for Hawaii, food for Iceland, food to feed Polish refugees in Russia, food for the hungry people of Greece.* Let's look closer.

Puerto Rico is one of the ramparts we watch. When German subs prowled in Caribbean waters, it was OD that caught them with their periscopes down, broke through by island-hopping strategy, and brought food to a besieged people. During the 1943 fiscal year more than 313,000 net short tons of food, seeds, feeds, and agricultural chemicals and supplies were handled under the Caribbean Emergency Program. What OD achieved in Puerto Rico can be applied to Hawaii and possibly to the Pacific theater when the time is ripe for Philippine liberation.

Foodstuffs have been made available to the American Red Cross for prisoner-of-war packages. You don't have to go far for an endorsement of this phase of OD's activities. August Turnow, recently back from Stalag VII–A, one of Hitler's "rest homes," says: "It was those prisoner-of-war packages coming through once a week with things to eat and smoke that kept up hope, courage, and strength. They sure looked good to us."

Other programs

Civilians get their share, too. OD takes care of them personally. In addition to saying "how much" civilians shall eat, OD settles down into the home, the industrial plant, the school room, the hospital—suggests "what kind" and tells why. The contribution of the Industrial Feeding, School Lunch, and Nutrition

615990°—44

Programs on the home front will leave its mark on the Nation's health long after the war is over.

Recently, WFA leased a limestone cave in Atchison, Kans. This was OD's answer to one of its most pressing problems. Storage was tight everywhere. Newly purchased OD stocks for eventual shipment under lend-lease needed a home. The cave is being converted into an ice box to store part of these Government-owned foodstuffs. On September 2, the first food, a trainload of dried eggs representing a million and a half dozen shell eggs, was moved into the cave. Installation of refrigeration equipment is under way to bring the cave's natural temperature of 55° F. down to about 32° F., so that more perishable foods can be stored. The cave's capacity for 30,000 to 50,000 tons of food products makes it the largest single cold-storage house in the United States.

One of OD's newest assignments is the sale of foods which have been released from Government-owned stocks. These foods include those for which there is no immediate need to fill war agency requirements, those released from Government reserves in the process of turning stocks, and those purchased to support prices to farmers. From May through October, OD sold back to the trade approximately 25 million dollars' worth of food. It should be pointed out, however, that more than half of this total represented eggs originally purchased to support producer prices.

Other programs concern OD's part in establishing grades and standards, its regulatory work, and its inspection and market-news services. OD is responsible for administering 25 regulatory laws. These cover everything from the detection of bad seed to umpiring disputes arising from administration of the Perishable Agricultural Commodities Act.

Even without any more chapters—and there are enough for a book—it is easy to see that OD has a mighty big chassis, and underneath the hood there are a lot of cylinders. They make a steady purr all the time.—Sophia Podolsky, OD.

Wings: Contrary to much contemporary opinion, the editor of *USDA does* know where his office is located. It is not in the West Wing, as stated in *USDA* October 16, p. 3, col. 3, bottom. We got a compass and checked up on this. Our office is in the *East* Wing, but still a Wilson-Theodore Roosevelt structure. The Bureau of Animal Industry labs mentioned are also in the East Wing. Forgive us, the Editorial Advisory Board, the Assistant Director of Information, and everyone else concerned.

Promotion from within

MAYBE some of you are old enough to remember the dramatic gentleman in a frock coat who pointed upward in certain advertisements. Well, there is hope—hope for you! No matter how lowly your job, there is hope that promotion from within may take you to the highest reaches, provided you have the stuff in you to merit such success.

Two former Secretaries of Agriculture worked in the Department earlier in subordinate capacities—Secretary Gore in the Packers and Stockyards Administration and Secretary Jardine as a cerealist in the Bureau of Plant Industry. But never before the present did the Department have three top men who rose from the ranks.

Secretary Wickard, Under Secretary Hill, and Assistant Secretary Brannan are evidence of the fact that the promotion-from-within policy works. Each one was promoted from subordinate Department positions to his present top position.

What others did

Secretary Claude R. Wickard started his service in the Department in August 1933 as assistant to the Chief of the Corn-Hog Production Section of the Agricultural Adjustment Agency. He was made Assistant Chief in December of the same year. He served as Assistant Director and Director of the North Central Division. He was appointed Under Secretary of Agriculture in February 1940 and Secretary on August 27, 1940.

Under Secretary Grover B. Hill's first appointment in the Department was June 1, 1934, as regional adviser of the drought relief program. He then served as field representative in the cattle-buying program and as principal field officer at Amarillo, Tex. He came to Washington in November 1936 to serve the AAA in developing the range program as senior specialist in range management. He was promoted to Assistant Secretary of Agriculture in December 1939 and to Under Secretary of Agriculture in February 1944. Mr. Hill also serves as First Assistant War Food Administrator.

You, too, may do

Assistant Secretary Charles F. Brannan started his work as an attorney with the Resettlement Administration in August 1935 at Denver, Colo. He served in the Office of the Solicitor at Denver and was promoted to be regional attorney. In October 1941 he was transferred and promoted to Regional Director of the Farm Security Administration at Denver. He was promoted to Assistant Administrator of FSA in April 1944 and Assistant Secretary of Agriculture on June 21, 1944.

The heads of the eight staff offices which now serve the Secretary all have come to their present positions through progressive promotion from other positions within the Department.

The promotion-from-within policy of the Department works up to the top.

A. W. Miller, BAI Chief

RAISED on a Kansas ranch, Dr. A. W. Miller, Chief of the Bureau of Animal Industry, has devoted his life to the betterment of domestic animals and to making them most useful to man. His energies have been directed largely along veterinary lines, but he has also dealt extensively with livestock-marketing problems and animal-husbandry research. As an administrator, Dr. Miller is an exponent of prompt action along direct lines. His biography is a typical American success story, punctuated by progressive advancement to posts of increasing responsibility.

Dr. Miller was born in Manchester, N. H., September 27, 1876. When he was 4 months old, his parents moved to a ranch near Junction City, Kans. After graduating from high school, he bred and raised livestock, including show and race horses. When 22 years old, he entered the Kansas City Veterinary College, graduating in 1901 with the degree of D. V. S. The same year he entered BAI, where he served as assistant inspector of the Federal meat-inspection force at South Omaha, Nebr. In 1904, he was assigned to field work involving the eradication of infectious livestock diseases in Colorado, Nebraska, and Wyoming. Subsequently he performed various livestock-inspection duties.

In May 1917 he took up administrative work in Washington, D. C., first as chief of the Field Inspection Division, which performs a wide range of regulatory work. Later, in 1928, Dr. Miller became Chief of the Packers and Stockyards Division and at the same time was appointed Assistant Chief of the Bureau. When subsequently, in the course of Department reorganization, the packers and stockyards work was consolidated with other marketing activities of the Department, Dr. Miller became Chief of BAI's Interstate Inspection Division. This new assignment involved supervision of the interstate transportation of livestock and the enforcement of livestock-quarantine laws. In August 1943, Dr. Miller became Chief of BAI.

Plant explorers

THE sending back of valuable plants and seeds to this country from afar was the first agricultural job undertaken by the Federal Government. Thus the first plant explorers were Benjamin Franklin, Thomas Jefferson, and a lot of consuls and other State Department employees. Just recently two leading magazines devoted space to our plant explorers.

Thomas Barbour, in the Atlantic Monthly for September, in the main discusses our own David Fairchild's home, The Kampong (Malay for a cluster of huts or a little village) in Florida. He attributes to Fairchild and other plant explorers our 50-million-dollar crop of durum wheat, our 5-million-dollar Japanese rice crop, our 15-million-dollar Sudan grass acreage, our several-million-dollar Egyptian feterita sorghum crop, not to mention Peruvian hairy alfalfa and soybeans.

Then there are sugarcane, bamboos of various kinds, Chinese jujubes and persimmons, tung trees, Japanese flowering cherries, Chinese cabbage, dasheen, papaya, Sarawak beans, yam beans, Quetta nectarines, dates, mangoes, and alligator pears. There might be more if Americans did not disappoint Fairchild so by being wedded to tradition in food habits and reluctant to taste new edibles.

In the Yale Review, Autumn 1944, Donald Culross Peattie discusses Plant Hunters. He tells how Fairchild, one day in the Gay Nineties, persuaded "Tama Jim" Wilson that he needed plant explorers. N. E. Hansen, a Dane, became the first, while Fairchild won a cubbyhole office in the hot garret of the old red brick building. Peattie writes: "The Division of Plant Exploration and Introduction is famous now from Capetown to London, from Java to Rio de Janeiro."

Puckerless persimmons

Hansen gathered many plants in Russia, Siberia, Turkestan, Finland, the Caucasus and Transcaucasia, China, Japan, and Manchuria. Fairchild encircled the globe again and again. He also discovered Frank N. Meyer, a Hollander, in the St. Louis botanical garden, and sent him to China, Mongolia, Turkestan, and Manchuria, where he was insulted, assaulted, denied entrance, denied exit, arrested, mobbed, attacked by footpads, deserted by guides—but he brought home the plants. His greatest gift to us was the Mongolian elm. He finally drowned in the Yangtze.

Then there was Mark Carlton, of Kansas, who sought hardy cereals in Russia and found durum wheat thousands of miles away on the Kirghiz steppes. There was Wilson Popenoe, past master of tropical fruit culture, discovered by Fairchild at 20 and now memorialized by the avocado on our tables. Walter Swingle ransacked the oases of Algeria and Tunisia, the stately groves in the land of the pyramids, the ancient plantations of Bagdad, and the Garden of Eden, for the dates that now grow in the U. S.

Howard Dorsett and W. J. Morse roamed Manchuria, infested with robber bands and Japanese agents, to get useful soybean varieties. Thomas Kearney and O. F. Cook brought back good strains of long and short staple cotton, respectively. Seaman A. Knapp, often regarded as the founder of the Extension Service, gave our dying rice industry a transfusion by bringing back upland rice from Japan.

Some 145,000 introductions have now been made by USDA scientists—including ladino clover, timber bamboo, mangoes, crested wheat grass, Bahia grass, hardy plums, pears and apples, a special broomcorn millet, Cossack alfalfa, cold-resistant almonds, blight-resistant chestnuts and pears, puckerless persimmons, odorless cabbage, and hardy yellow roses.

B. Y. Morrison is the present chief of the Division of Plant Exploration and Introduction in the Bureau of Plant Industry, Soils, and Agricultural Engineering, and to him a subsequent article will be devoted.

Bureaucracy and better management

J. M. JURAN'S little book, Bureaucracy, A Challenge to Better Management, is exactly what it purports to be, an intelligent and constructive scientific analysis of the Federal bureaucracy in terms of its managerial effectiveness. The preface is candid and the book proper is readable. Unlike many other books on the subject of bureaucracy this author does not merely smear, call names, and lash out at tax eaters with fire and brimstone.

He is not content merely to collect believe-it-or-not instances. Instead he makes a serious, objective analysis of the Federal set-up, its good points and bad, introducing comparisons with private enterprise every so often. He shows that some evils are more prevalent in the Government and others in private enterprise. He offers sensible means of overcoming these evils, though he realizes that miraculous overnight reforms are out of the question.

The chapter on Red Tape and Systems is especially recommended. The one on Duplication—The Common Cold of the Bureaucratic World provides much food for thought. The entire 136 pages of text merit your attention. The author is Assistant Administrator of Lend-Lease; he has also been an industrial executive. The book is published by Harper & Bros.

On the move

DOES your office look *different* lately? Did you get moved and then crab about it? You probably did crab about it. We always do. But if you were caught in the wholesale South Building migration in Washington, take heart. The moving is done, for a while, and Plant and Operations appreciates your fine cooperation no end.

Since it is no fun to be uprooted bodily from familiar surroundings and dropped into a new home littered with telephone cables, you perhaps thought the whole affair whimsical. You felt "they" just moved you without rhyme or reason. Well, "they" didn't, whether you are in Washington or the field.

Both the Farm Credit Administration and Rural Electrification Administration know what it means to move afar and consolidate new holdings. In fact, FCA is just about ready to move around a bit in its Auditorium in Kansas City, while REA had its upheaval in St. Louis last spring, when it released 18,000 square feet of the Boatmen's Bank Building to Army Engineers. The Office of Distribution's field operation offices have also been on the move.

But it can happen here in Washington, too. Yet there is a reason, and a good one, for each move. During wartime the functions of every office and agency change fast. With change of function, contacts and relationships with other offices change. Then new units have to be set up every so often. So rapid and complex are these changes that the minor space adjustments of peacetime cannot cope with them.

Mass migration

Soon major changes result in parts of offices being scattered in widely separated locations. They become so remote that serious administrative problems arise, time and manpower are wasted, and operational programs slow down. That is why the Secretary and War Food Administrator decided early this summer that a major space reorganization should be undertaken.

This largest move in the history of the South Building involved 1,600 offices and approximately 390,000 square feet of space. Some 300 partitions had to be relocated, not to mention telephones—

though *not* telephone numbers. To disrupt work as little as possible, the mass migration took place in a series of little moves spread over 3 months. Usually one move ended before another began. The telephone mechanics always did their share nobly.

At last the offices with related functions are so located that a much nearer approach to the ideal straight-line work flow has been achieved. Over-all savings in time and manpower are incalculable. Markedly greater efficiency in operation results. The moves also enabled a number of offices located in outlying buildings in Washington or in the field to get into the South Building. This released outside space needed by war agencies.

So, if you worried about moving, that's the story. And don't think P & O didn't do its share of worrying, too.

A rugged forester

A MAN who pioneered in setting up the national-forest system around the turn of the century, Evan W. Kelley, for the past 15 years U. S. Regional Forester at Missoula, Mont., retired from the Forest Service October 31.

Regarded as an able organizer and administrator, Major Kelley's recent large-scale achievement was organization of the Emergency Rubber (Guayule) Project at Salinas, Calif. Starting from scratch, he got this big operation going almost overnight, with nurseries turning out millions of guayule seedlings.

Major Kelley came up the hard way. He began work at age 14 in the gold mines of Sierra County, Calif. He was 22 when the Yuba Forest Reserve, now part of the Tahoe National Forest, was established. In 1906 he was appointed a forest guard at $60 a month, with the understanding that he would furnish his own saddle horse, pack animals, and tools, and feed the animals. He could have earned more in the mines, but, as he says, he had even then "a conscious interest in better treatment of the forests of the country."

With only a grade school education, Major Kelley worked his way steadily up in FS. In World War I, he went overseas as a captain in the Tenth Engineers, a forestry regiment, and came home a major. After serving in various responsible FS positions in California and Washington, D. C., Major Kelley's ability to cope with difficult forest fires resulted in his appointment in 1929 at Missoula, in the Northern Region, the toughest fire region in the country.

He has contributed greatly to development of FS work in road and trail construction, lookout towers, and fire and other equipment. In 1940 he received the degree of Master of Forest Engineering from the University of Montana.

Harking back the other day to his first job as forest guard, Major Kelley said, "If I had my life to live over again, I would choose the same course."

Office of the Solicitor

THE Department has long been well mixed up with the law. In fact, every program of the Department is carried on because of and pursuant to some provision of law. With two arresting and almost intimidating volumes required merely to list the text of laws applicable to the USDA, it is easy to see that lawyers play an important part in keeping the Department on the right track.

Since 1940, all legal work of the Department has been under the supervision and direction of the Solicitor, as directed by Congress. While the Department's functions were mainly in the field of scientific, limited regulatory, and custodial activities, a relatively small staff of lawyers sufficed. But after the action agencies and their programs came into existence beginning in 1933, the scope of legal work and staff requirements widened notably.

As these new agencies were established, or as those which were formerly independent came into the Department, Sol. took on new fields for legal inquiry, as well as more lawyers. The last addition came in January 1943, when the legal functions of the War Production Board concerned with the Nation's wartime food program were transferred to Sol. Like the other Department staff agencies, Sol. serves both USDA and WFA.

Reorganization

When Bob Shields became Solicitor in March 1942, the Office consisted of 12 Washington groups and some 43 field offices, all responsible directly to the Solicitor. With wartime conditions making manpower scarce, and wartime legislation increasing and emphasizing the lawyer's load, complete reorganization pointed the way to greater efficiency. Accordingly, in June 1942, the structure of Sol. was adjusted and revised to substantially its present form. Now there are but 6 Associate Solicitors, 1 Assistant Solicitor, and 11 Regional Attorneys responsible directly to the Solicitor. The Associate Solicitor, in charge of Food Production and Commodity Credit, is responsible for the Divisions of Conservation and Adjustment, of Commodity Credit, and of Stabilization and Labor. The Associate Solicitor, in charge of Farm Credit, is responsible for the Long-Term and the Short-Term Credit Divisions. This group, by the way, is decentralized to Kansas City.

The Associate Solicitor, in charge of Food Distribution, is responsible for the Divisions of General Food Distribution and Procurement, of Dairy Products and Fruits and Vegetables, and of Grain, Livestock, and Sugar. The Associate Solicitor, in charge of Rural Electrification—which has been decentralized to St. Louis—is responsible for the Divisions of Electrification Loans and of Electrification Construction and Operations. The Associate Solicitor, in charge of Farm Security, is responsible for the Rural Rehabilitation and the Farm Tenancy Divisions. The Associate Solicitor, in charge of Forestry, Research, and General Legal Services, is responsible for the Divisions of Forestry and Lands and of Research and General Legal Services; he also shares the Solicitor's administrative responsibilities.

The Assistant Solicitor is in charge of litigation and is also a special assistant to the Attorney General.

Varied functions

The regional offices, scattered through the United States and Puerto Rico, are each under the jurisdiction of a regional attorney who operates as a "little solicitor" with respect to his geographical area. That is, his work covers all legal problems of agriculture which arise in his field. Decentralization in Sol. has been greatly emphasized, but to the extent necessary the regional attorneys correspond with the Associate and Assistant Solicitors as problems dictate on substantive matters and with the Solicitor or his executive assistant on administrative matters.

The Solicitor, of course, is legal adviser to the Secretary and the War Food Administrator, who consider his advice in making decisions. As to matters finally determined below this level, the advice of the Solicitor or his associates with respect to legal matters is controlling.

The variety of work the lawyers of Sol. do would probably surprise the casual observer. It ranges from securing patents to arguing cases in the U. S. Supreme Court. It includes review, study, and analysis of laws and of corporate charters; drafting of purchase, sale, and other contracts and many other commercial instruments; searching of titles, examination of abstracts, and drafting of deeds, leases, etc.; drafting or reviewing for legality the vast body of administrative regulations which direct the nu-

merous Department programs and of war food allocation orders that form the basis for food and farm machinery rationing; legal activities incident to securing compliance with mandatory features of programs through civil, criminal, or equity court procedures; and on and on.

As you can readily see, no field of law is left untouched by the lawyers, be it tort, corporation, administrative, constitutional, or even criminal law.

Consumer Time

LISTEN to Consumer Time, your own War Food Administration radio show, broadcast coast to coast over the NBC network. Consumer Time originates in the studios of Station WRC, in Washington, on Saturdays, 12:15 to 12:30 P. M. EWT. Tell the folks at home about Consumer Time. Here's what's coming for the next 7 weeks:

November 18.—Transportation of food. The little-known tale of how America's food is transported.

November 25.—Enriched bread and flour. The hows and whys of flour enrichment, dramatized.

December 2.—Shop early, mail early. With Postmaster General as guest star.

December 9.—Meat packing and inspection. Latest on the meat situation. Describes meat packers at work. Tells how consumers are protected and served by Federal inspection and grading services.

December 16.—Interstate trade barriers. How they affect cost of food; some of the conflicting regulations, what is being done to relieve stringent rules. Simply the story of these barriers, as they exist today.

December 23.—Christmas program. Christmas fantasy. Participants are children from the different United Nations embassies in Washington.

December 30.—Preview of the food situation for 1945.

Tire, gas savings

THIRTY THOUSAND tires and 10 million gallons of gasoline saved in the fiscal year 1944, compared with 1941, by USDA-WFA! This is the fine record reported by Arthur B. Thatcher, Chief of the Office of Plant and Operations and also Mileage Administrator. Translated into terms of percentage, this reduction amounted to 41.5 percent. It included both motor vehicles owned by USDA-WFA and private cars for which owners are reimbursed when traveling on Government business.

These savings may be chalked up to the Mileage Conservation Program started by the President, who asked Federal agencies to reduce their total mileage by at least 40 percent of that driven in 1941.

Our Mileage Conservation Program is unique in that USDA and WFA are the only Federal agencies using the "mileage budget" plan. A central mileage budget was set up in P & O, and so many miles were allotted to each Bureau somewhat in the way funds are allotted. Then a deputy mileage administrator in each Bureau made "sub" allotments for the various activities in his bureau, and each quarter reported to Mr. Thatcher the number of miles traveled. Like financial budgets, these mileage budgets have been kept flexible, to meet the changing demands of war activities.

To stay within their mileage budgets and at the same time carry on essential services, the Bureaus thought up many devices such as car pools, loan of cars, greater use of public transportation, and participation in the Federal travel coordination plan established in 10 large cities by the Office of Price Administration.

In last analysis, credit for this achievement goes to the employees of USDA-WFA. Without their cooperation, this program could not have been successfully carried out.

Facts on meat

BACK in the good old pre-war years of 1935–39 that mythical character, the "average" American, ate about 126 pounds of meat a year. During the first 3 months of 1944, however, this American consumed meat at an annual rate of 158 pounds—*32 pounds more.* The War Food Administration, in October, said the per capita rate for the full year was expected to be around 145 pounds.

Increased demand as indicated by this consumption is only one reason, of course, why we can't get all the meat we'd like and why we can't get more of the better grades. WFA estimates that, for July–December 1944, 12.4 billion pounds will be available *for all purposes.* Of this, about 9.1 billion will be federally inspected meat. Nonfederally inspected meat is not available for purchase by the Government.

Federally inspected meat for the current 6 months is allocated as follows: 2.6 billion pounds for our armed forces; 1.3 billion for the United Kingdom, British War Services, U. S. S. R., liberated areas, Red Cross, and other agencies for which WFA buys; 58 million for commercial export; and 5.2 billion for U. S. civilians. With these 5.2 billion pounds, and 3.2 billion more of nonfederally inspected meat, civilians should get 8.4 billion pounds—or, putting it another way, 130 pounds apiece, figured annually. You can see this compares favorably with 126 pounds, the pre-war consumption.

Meat production this year has been affected by other factors such as the feed supply and insufficient slaughter facilities in the case of hogs. We haven't space to go into this further, but we want you to know the average American meat eater is doing as well as could be expected. And remember the average American farmer has broken all production records to provide meat in wartime.

A couple of holes

NEW Department buildings were authorized February 1903, so a committee got busy. B. T. Galloway, Assistant Secretary, was chairman. The other members were D. E. Salmon, Chief of the Bureau of Animal Industry, and A. C. True, Chief of the Office of Experiment Stations. The achitects who won a competition for the design, however, approved a beautiful classical structure unfitted for urgent laboratory needs.

So the committee tried again. This time it was decided to erect two L-shaped laboratory buildings, now the East and West Wings of the Adminstration Building. These were to be located well over toward Fourteenth and B Streets SW. and beyond the Mall line. They were to be built so that, when the central administration building was finally erected, it would be planted squarely across Thirteenth Street SW. Contrary to myth, there was no controversy with Congress over whether there should be one building or two.

Men set to work and dug two large holes for the foundations of the structures contemplated. When these were completed, at a cost of $18,000 each, the Park Commission popped up suddenly to say that the buildings were improperly situated. They should be moved 106 feet farther west toward Fourteenth Street, they should be 7 or 8 feet lower, and the ends of the L's should be flush with the B Street building line. This prospective loss of $36,000 bled Scottish Tama Jim Wilson's heart and the old Secretary stubbornly refused to do as the Commission requested.

Bully! Bully!

One day at Cabinet meeting, however, President Theodore Roosevelt called Wilson aside and asked him what the trouble was about the holes in the ground. Wilson gave his story. The President then said, "I'll fix things," and told Wilson he would be over next day at 4:30 to look at the excavations himself. So at 4:30 Wilson and Galloway strolled out in front of the old red brick building in anticipation of the President's arrival. They expected him to

come afoot, too, walking across the Washington Monument lot, but he didn't appear.

Instead, they heard guns firing, drums beating, noise, and yelling over on the Ellipse south of the White House. About 5:30 Wilson was willing to lay a bet that the President was at the sham battle. When he finally came walking across the Monument lot, that proved to have been the case. His face and hands were grimy and his clothes covered with dirt and dust. He had had a bully time with the boys in the sham battle. He begged pardon for the delay; then asked, "Where are the controversial holes in the ground, Mr. Secretary?"

He was shown holes and blueprints. He was given the Department's sad story. But then he grinned, said he had a dozen fine old Senators who begged him not to swerve an inch from the Park Commission's plans, and added, "Mr. Secretary, you wouldn't want me to break the hearts of those Senators?" You guessed it. No Senators developed cardiac trouble. The holes were filled up. The excavations were made farther west. Secretary Wilson swallowed the loss of his $36,000—and the top stories of the two wings (in one of which *USDA* has its headquarters) are lower than intended, hidden by screening walls, and get too little ventilation, if you ask us.

About butter

HERE are the facts about the butter situation, as stated by the War Food Administration in October.

WFA says that out of every 100 pounds of the butter supply this year, 95 will be consumed by Americans—80 by civilians and 15 by our armed forces. Only 5 out of every 100 pounds will go to the Russian Army, chiefly for hospitals.

Many people wonder why they can't buy butter when they have the money—and ration points. One reason is that more people are able to buy butter today than ever before. Another is that civilians are drinking from 20 to 25 percent more milk than before the war, and although milk production this year is expected to be about 15 billion pounds above *pre-war* levels, this increase is going into fluid milk and such dairy products as cheese, evaporated milk, and milk powder. Our armed forces have asked for more than 50 percent more evaporated milk than in 1943, have more than doubled their needs for whole milk powder, and have asked for increased quantities of cheese.

Why is the present butter situation "tight"? Butter production was about 131 million pounds smaller in the first 7 months of 1944 than in the same period last year, and was expected to be 40 to 45 million pounds less in August-October 1944 than in the corresponding period of 1943. Butter is produced seasonally, of course, high production coming in spring and summer, and the Government, to meet war needs and at the same time keep civilian supplies as even as possible, buys enough butter in 6 months to meet the needs for 12. WFA suspended the set-aside program October 1 until next spring.

Maybe we civilians will get more butter next spring. Anyway, it's a satisfaction to know our armed forces are getting what they need.

Leaves

ONE of the older stories of agricultural research concerns the experiment by the Dutch physiologist Van Helmont, some 300 years ago, to determine the amount of soil used up in plant growth. He filled a tub with soil that had been carefully dried and weighed. In it he placed a 5-pound willow, watering it from time to time with rainwater practically free from minerals. After 5 years the tree was removed and the soil about its roots restored to the tub. The tree then weighed 164 pounds.

Van Helmont weighed the soil in the tub and was amazed to discover that it had lost but 2 ounces. He decided that the 159-pound increase in weight of the willow had come from the water applied to the soil. He was wrong, of course. We know now that the building material of plants is actually derived from the combination of the water, with certain minerals in solution, drawn up from the soil and of carbon dioxide gas taken from the air, the leaf serving as the manufacturing plant.

On the surface of practically all leaves, particularly on the underside, are thousands of minute openings through which carbon dioxide, always present in fresh air, enters. It is joined in the cells inside the leaf by the water drawn up from the soil through the trunk and branches. Here, in the presence of the green coloring matter (chlorophyll) sugar, starch, and the like are manufactured by the leaf—if there is light. Light is essential to this cool, soundless manufacturing process.

Leaf factories

The leaf, of course, is also an organ in which all of the mineral elements required for plant growth are found, and in the well-nourished plant, in approximately the proportion needed. Thus by leaf analyses it is possible to determine whether the plant is getting the minerals needed for optimum growth, a matter of vital importance, particularly in tree nutrition since the plants stand for many years in one soil.

The purpose of leaf analysis is distinct from that of soil analysis in that analyses of the leaves indicate the amounts of food elements actually being used by the tree at the time of testing, whereas analyses of the soil reveal how much of various food elements the particular soil can supply. In connection with nutritional studies, leaf analysis is thus proving more useful than soil analysis to the horticulturist.

Another arresting thought in conclusion: The Scriptures were perfectly right scientifically in saying, All flesh is grass. All living things on earth go back to that tremendous manufacturing job performed by green leaves, working without sound, without rise of temperature, and using the energy of sunlight. Chemists have not yet fully mastered the fundamentals of this miraculous manufacturing process that makes possible all life, animal as well as plant.—JOHN A. FERRALL, PISAE.

Books from Russia, China

VICE PRESIDENT WALLACE, when he visited the Plant Industry Station at Beltsville after his return from the U. S. S. R. and China this year, gave the Sub-Branch Library three beautiful Russian books and some Russian and Chinese publications.

Two of the Russian books were inscribed by Mr. Wallace: Sovetskie Subtropiki (Soviet Subtropical Plants), Moskva 1940, describing and illustrating in color the crops of the warmest part of the Soviet Union; and Atlas Plodov (of Fruits) Kazakhskoi SSR, Kazogiz 1941, with bright illustrations of the fruits and nuts of Kazak. Dr. Charles Darrow, small fruit specialist of the Bureau of Plant Industry, Soils, and Agricultural Engineering, is having translations made of some strawberry descriptions from the latter book.

The third book is Stroenie i Razvitie Khlopchatnika (Structure and Development of the Cotton Plant), Moskva-Leningrad 1937, with text and a folio of beautifully detailed drawings.

The Chinese material includes some of their experiment station publications and reprints of articles, mostly on wheat and rice. One reprint was from the Chinese Journal of Agricultural Science, Vol. I, 1943. The height of even Chinese courage seemed to be reached in beginning a journal in that year.

Make up your mind!

PEOPLE may be divided in many ways into many groups. For instance, there are those who answer letters and those who figure that, if they let a letter lie around long enough, it will not require an answer. Similarly there are people who solve problems and people who sit around hoping problems will reach a solution automatically and without their interference.

Usually problems are slow about doing that. Like the unanswered letters, the problems do in time solve themselves. But there is confusion, disorder, and inefficiency while that solution is being reached. Much of this can be avoided by having people around who are not afraid to make decisions and to intervene in the solution of problems.

Some people are continually swamped in a peck of trouble because indecision dogs their footsteps. They cannot write a simple letter without altering the final copy four or five times and driving their secretaries insane. They cannot finish this because they have meanwhile picked up that, and it diverts their minds. For their minds tend to wander and it is difficult to pin them to decisive action even in trivial matters.

Institutions have a way of surviving the disappearance of individuals. Few if any of us will ever make or wreck an institution by being absent a few days or by stalwartly making a wrong decision. On the other hand, wavering indecision on the part of individual workers imparts a certain uncertainty and inefficiency to the institution they serve. It is better to make up our minds and to solve the problems we face, however low our station in the hierarchy.

Bosses

A MAN said to me not long since: "There are two kinds of good bosses. One is the outstanding and accomplished individual, for whom it is a pride and a pleasure to work and in assisting whom you sincerely feel you have achieved something. The other is a third or fourth rate individual who knows that he is third or fourth rate, but who recognizes ability in subordinates and does not impede but rather encourages them and who knows when not to interfere. Then there are innumerable kinds of bad bosses.

"Perhaps the worst boss of all is a second-rater who holds on by the very skin of his teeth, who has never really accomplished anything outstanding, and who feels it obligatory to take credit from his subordinates and to interfere with their work so that even the best of them cannot accomplish that of which they are capable. Such a boss is uncertain of his own status. He lacks self-confidence. He can jitter an entire division or institution."

We intended to make some comments on these observations, but none occurs to us. They seem to cover the entire territory like a Mother Hubbard. If there is any comment, it runs to the effect that a man who has accomplished something—who has, in a manner of speaking, arrived—makes a generous boss, willing to give subordinates credit for what they do merely because he does not need to build himself up synthetically and surreptitiously. A "climber" who lacks real ability and sound qualifications makes a bad superior because he may grab at any straw in the endeavor to make himself appear what he is not and never can be.

Cork

CORK is the outer bark of the cork oak. It is composed of the walls of dead cells filled with air. This renders it very light. Since it is also elastic, tough, and impervious, it has a wide variety of uses. These were discovered by the ancient Greeks. Roman wine vessels were sealed with cork and pitch, early Sicilian fishermen floated their nets with cork blocks, and when the Moors invaded Spain they found the roofs and floors of many huts composed of cork slabs.

Today cork is a commonplace material—*vide* linoleum, packing material for fragile objects, ship decks, engine gaskets, and the necks of innumerable bottles. But war created a critical shortage of this versatile material. The 5 million acres of cork forest along the shores of the Mediterranean Basin and part of the Atlantic were producing as much as ever, but the German submarines and lack of shipping sharply curtailed imports. So we began to think again of producing our own cork—again, because Thomas Jefferson tried to have cork oak established in this country—but the delicate acorns dried out or became moldy on the long passage from Europe and the seedlings failed to come up.

However, in 1858, when agricultural work was still in the Patent Office, the cork tree was successfully established here. A couple of dozen veteran trees are still growing from Georgia to California as representatives of these early plantings, while some 25 hundred other trees have been started from their acorns. Today numerous planting projects are being encouraged wherever cork will grow in the South and West. Meanwhile the Forest Service is carrying out its own research program in coordination with commercial interests to determine where, how, and at what cost we can produce cork domestically.

Growing our own stoppers

In some localities cork trees will thrive on their own, once established. Other localities are being tested out. Possibly also we could not establish a domestic cork industry which could compete successfully with that of Europe where labor costs are less. But it would be valuable for us to have cork-oak forests growing on public lands unfit for crop production.

Cork is a self-storing crop which does not spoil if unharvested. It just stays there on the tree and waits to be harvested—a century if necessary. So it might be a good idea for us to have such a stock-pile stored in our own trees, in case some future emergency deprives us of cork supplies from the Mediterranean countries.

Last December, FS sent Dr. Palmer Stockwell, plant geneticist, to European cork-producing areas to collect information and bring back cork-oak acorns. With the foundation laid, it is possible that the next generation of Americans will consider cork growing as commonplace as the growing of other imported and once exotic crops like oranges, dates, figs, olives, and so on.

Sugar

BEFORE the war the annual per capita consumption of sugar amounted to 97 pounds—including that in manufactured products and 55 pounds in the household. In 1941, with increased buying power, the total consumption rose to 105 pounds. During the last 8 months of 1942 sugar rations for individuals, including manufactured items, were at the rate of 70 pounds per person per year. In 1943 total average consumption, with better supplies, was 79.6 pounds, of which 36 pounds were for household use.

Increased needs for home and commercial canning as a result of an unusually large fruit crop, for additional production of condensed milk, for use in connection with the record production of eggs, and for replacement of other types of sweetness have increased our 1944 consumption of sugar above that of 1943.

War cut our sugar supply by depriving us of the Philippines. War conditions resulted in decreased domestic planting of sugar beets. The situation has been aggravated by shipping difficulties. Un-

der these conditions the Caribbean area has become our chief source of supply. Part of the last Cuban sugarcane crop was diverted from sugar manufacture to the production of industrial alcohol to meet our war needs. With limited supplies and increased consumption our stocks of sugar are at a relatively low level.

There you have the sugar situation in October 1944.

Woes of plant breeders

WE grow accustomed to reading how plant breeders have managed to produce new strains or varieties resistant to destructive plant diseases. We sometimes forget how many headaches the plant breeder incurs for each successful experiment. Take, for example, the outbreak of powdery mildew among Imperial Valley (Calif.) cantaloupes.

Plant breeders took over when fungicides did not control the disease. After years of work they developed a resistant strain, but then a new form of mildew appeared to which the improved strain was susceptible. So they had to go to work again and produce a cantaloupe resistant to both forms of mildew.

Though the problem thus seems to have been solved twice, cantaloupes may yet break down with some other ailment and more work may have to be done. Disease organisms also have a disconcerting way of adapting themselves to new conditions. Finally, resistance to disease is not always inherited—as was the cantaloupe's mildew resistance—as a simple Mendelian dominant factor, thus simplifying the entire problem.

Survival of the fittest

Even so, thousands of plants were grown, tested, and discarded before the final cantaloupe selection was made, and it had a pedigree like a prize spaniel. Think what happens when no resistant form can be found! The Marglobe tomato was the choice out of 100,000 plants tested. The new Pan America tomato, which may excel even Marglobe, was selected from among 80,000 hybrid and backcross plants.

Some 200,000 strawberry plants were tested to find 7 considered worth naming and distributing. One of these, the Blakemore, has become the leading variety in the United States and has proved worth more than the cost of the entire breeding program. It is the kind of outstanding success that alone can cure plant-breeder's headache, an occupational disease of exceptional potentialities.

Brief but important

Government and industrial research: Thomas M. Rector, Vice President of the General Foods Corporation, recently wrote a Department employee, with whom he is acquainted, as follows:

> The benefits we derived from our contacts with the Northern Regional Research Laboratory were those which always result when technical men with a common objective get together. * * * We have the highest respect for the work in agricultural chemistry done by the Department of Agriculture, particularly the more fundamental phases of this work. * * * It is our feeling that cooperation between Government research and industrial research in the food field has been too much neglected in the past, and that a positive move in this direction from both sides will greatly accelerate progress.

New Director of Tansportation: The War Food Administration has appointed Edgar B. Black as Director of Transportation, to succeed Elwood Chase, who has resigned to reenter private business. Mr. Black has been in the grain business in Buffalo, N. Y., for the past 30 years.

Plant Industry employees' association: Most of us spend no inconsiderable portion of our lives trying to get something for—something! Well, out at the Plant Industry Station, Beltsville, Md., they have taken action concerning this. They have formed an association to look after the general welfare of all station employees—promoting recreational activities; providing for music, dramatics, sociability, and general acquaintance; taking care of emergency cases where help and financial aid are necessary. Anything that concerns the employee's life, liberty, and pursuit of happiness is its business. The association is working in close cooperation with the Department and Beltsville Research Center welfare groups. Dr. Earl E. Berkley is president. Already the Association has more than 500 members. The dues are 25 cents a year—less than a 3-cent postage stamp each month.

Hanson named Regional Forester: Percy D. Hanson has been appointed Regional Forester for the Forest Service's Northern Region with headquarters at Missoula, Mont., to succeed Evan W. Kelley (see A rugged forester, p. 4). This region includes Montana, northeastern Washington, northern Idaho, and northwestern South Dakota. Mr. Hanson has been with FS for 18 years.

Agricultural chronology: In a book review which appeared in a recent issue of The Land, DeWitt C. Wing, Inf., writes: "Dr. Paul H. Johnstone of BAE * * * is something of a magician with words that he selects automatically as from an orderly kit of tools. He grew up on a Minnesota farm from which he went to college and slid into agricultural history and economics. He designed and prepared a chronology of American agriculture from 1790 to 1940, and the miracle of it is that it is not only intelligible but fascinating. I'd have sworn that it couldn't be done. It occupied one sheet of paper measuring 30 by 42 inches." This chronology is available from the BAE Division of Economic Information.

From Waldemar Kaempffert, scientific editor, New York Times:

> The *USDA* is by far the best Government publication which I receive and in which science is accurately and admirably popularized. * * * I clip everything that seems important, index, and catalogue it so that I can lay my hands on it when occasion arises. I have been doing this with many scientific and engineering periodicals for over 35 years, with the result that I have had at my elbow about 200,000 reprints and articles which are of indispensable value in preparing editorials. * * * You can imagine, then, how important *USDA* is to me.

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USDA

FOR NOVEMBER 27, 1944

AIC 82 years old

CHEMISTS have played an important part in the development of the Department ever since its establishment as a Commission on May 15, 1862, by President Lincoln. The first scientific position in what is now the Department was that of chemist, to which post Dr. Charles M. Wetherill was appointed August 21, 1862. His first publication, and therefore the first scientific publication to emanate from the Department, was a Report of the Chemical Analysis of Grapes, issued in 1862. Since then the chemist and his colleagues and assistants in the Department have produced more than 10,000 publications on the results of their investigations.

In 1883, Dr. Harvey W. Wiley, of "pure food" fame, became chief of the unit which has developed into the present Bureau of Agricultural and Industrial Chemistry. Dr. Wiley was followed by Dr. C. L. Alsberg, another food specialist. Then came Dr. C. A. Browne, an outstanding carbohydrate chemist. He was followed by Dr. Henry G. Knight, who made his record in agricultural experiment-station work. Next was Dr. W. W. Skinner, who spent 42 years in the Department and planted the idea of using farm products in industry. The present chief, Dr. O. E. May, had already had considerable experience in developing industrial outlets and markets for agricultural products when he was appointed March 3, 1944.

The Division of Chemistry became a Bureau July 1, 1901. It absorbed the Fixed Nitrogen Research Laboratory and the Bureau of Soils, as well as certain soils work of the old Bureau of Plant Industry in 1927, and became the Bureau of Chemistry and Soils. At the same time the food and drugs work was detached from it and set up as a separate unit.

Nowadays

On October 1, 1938, the chemical research of the Bureau of Chemistry and Soils was combined with the work of the Bureau of Agricultural Engineering, and this combined unit became the Bureau of Agricultural Chemistry and Engineering. On December 13, 1941, this became part of the Agricultural Research Administration. Later certain other work was transferred and the agency assumed its present name.

AIC operates the 4 Regional Research Laboratories and 12 field stations and requires the services of approximately 1,100 persons, more than half of whom are chemists, physicists, engineers, and other highly trained scientists. Its present work includes more than 160 wartime projects, many of which are contributing to the war effort by developing substitutes and replacements from agricultural products for imported articles no longer available.

Bureau accomplishments not quite so recent, which have already influenced our lives in many ways, were: Development of new technical methods for the production of fast, brilliant dyes for cotton, resulting in the gay, fast colors men and women are wearing today; ethylene gas treatment of ripe but green-colored citrus fruit, bringing out the yellow color so desired by the consumer; methods that have given producers of gum naval stores over a million dollars a year more than they were receiving a few years ago, before the chemists came to their aid; development of the commercial production of sweetpotato starch; and pioneer work with phenothiazine for both agricultural and medical uses.

Recent achievements

Among the more recent accomplishments of the Bureau are the following: A new diet, discovered for the mold that produces penicillin, has increased the yield of this remarkable new drug more than 100 times and enabled industry to start production on a commercial scale. Norepol, a rubber substitute, was produced from soybean oil, and Noreseal, a cork substitute, from peanut hulls. A cotton bandage with a 2-way stretch was developed. A protective coating material was produced from farm starches and sugars.

New methods were developed for making a valuable poultry feed from waste vegetable leaves; for extracting rutin, a valuable medicinal agent beneficial in treating certain types of high blood pressure, from bright or flue-cured tobacco; for the commercial production of apple sirup from off-grade sound apples; for utilizing tree-ripened fruits by turning them into "velva fruit," a new, delicious, frozen dessert; and for the use of ground corncobs to clean vital parts of the motors in naval aircraft.

AIC devotes most of its attention to a search for new and wider industrial outlets and markets for agricultural commodities and to improving methods for the commercial processing of foods and feeds. It is playing an important part in adapting agricultural products to the war effort, and is the agency that pioneered the farm "chemurgic" idea now so prevalent in the minds of industrial developers.

Dictation

THE PROCESS of dictating a letter is an austere affair well calculated to appeal to the vanity and sense of importance of those possessed of these qualities. But how efficient is it? It is impressive to ring the bell, have the girl flurry in flipping her notebook leaves, and to sit or pace up and down while manufacturing letters orally. But how many good letters result from that, unless the secretary (as is usually the case) doctors them up and makes them good?

An official remarked to us the other day that he was now roughing out his letters in pencil—oddly enough he wrote legibly—instead of dictating. He went on to say: "I do that because we are short of stenographers and the process is quicker. It is also more efficient. Two people do not stop work when my phone rings while I am dictating, the girl sitting there through what may be a prolonged conversation, wondering whether she should leave and come back or remain.

"Then," he went on, "I get better letters. The letters I dictate are not so good unless my secretary makes them good by her alterations. Consequently, I often correct them, smooth them out, and she has to do them all over again. If she is just an average stenographer some of the material she transcribes is even worse and more incoherent than that which I dictated. But now that I rough out my letters they are good letters. I am learning to rough them on the typewriter, too. Then the girls can farm them around to whichever one is least busy at the time. It strikes me that this method is far superior to the old; it is quicker and more efficient. But, of course, it makes small appeal to vanity and it isn't truly impressive!"

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Agricultural Research Administration

THE Agricultural Research Administration is one of the oldest and one of the newest agencies in the Department. It is one of the oldest because it is made up of scientific bureaus, some of which were among the first to be created in the Department. It is one of the newest because ARA as such was not born until December 13, 1941. On that date the Secretary brought seven scientific bureaus and the Beltsville Research Center into one organization under Dr. E. C. Auchter, former Chief of the Bureau of Plant Industry, as Agricultural Research Administrator.

Although this was originally a move designed to mobilize the scientific resources of the Department for war, it has proved to be an effective arrangement for coordinating research in the whole vast and complicated field of agricultural science, whether in war or peace. In fact, it is in line with a growing trend in modern scientific work—the trend of men in many different specialties to get together, try to see each problem as a whole, and attack it simultaneously instead of piecemeal.

ARA includes the Bureaus of Agricultural and Industrial Chemistry, of Animal Industry, of Dairy Industry, of Entomology and Plant Quarantine, of Human Nutrition and Home Economics, and of Plant Industry, Soils, and Agricultural Engineering; Office of Experiment Stations; and Beltsville Research Center. The nine Bankhead-Jones laboratories are in the group; also, of course, the four Regional Research Laboratories of AIC. The work of the different bureaus has been or will be discussed individually in issues of *USDA*.

The Administrator's office includes an Assistant Administrator, P. V. Cardon, and a few coordinators specializing in different fields. But essentially ARA *is* the group of bureaus, embracing almost every field of science related to agriculture. In experience and skill, it is old. What is new is the more complete coordination and cooperation demanded by our times. The creation of ARA has resulted not only in concentration of the research program on urgent problems but also in getting results much more quickly, in many cases, than would have been possible in the old days of separatism.—GOVE HAMBIDGE, ARA.

New BPISAE man: Dr. Frank V. Parker has been appointed assistant chief of the Bureau of Plant Industry, Soils, and Agricultural Engineering. He formerly headed the Division of Soil and Fertilizer Investigations. He will direct the Bureau's research on soils.

6 feet 4 inches of idealism

IT IS difficult to sit here and imagine the intense, burning enthusiasm with which many of our field people work. You have to go there to see it. You have to go there to appreciate how much beyond their job sheets their activities extend. You have to ride around with them or sit in their offices as they work to appreciate how much the USDA–WFA and their own agency mean to them.

At the moment the editor is thinking of Glen Grisham, Farm Security State Supervisor for New Mexico, headquarters at Albuquerque, where we first met him. There he was working against time on piles of papers in a terribly undermanned office. Later he presided at a meeting of the USDA Club, an enthusiastic group of 53, who got together to twice the number expected, in the Civil Service examining rooms at the Post Office.

The next day Grisham and the editor started out on an automobile tour of Taos County. Grisham is 6 feet 4 inches of smoldering idealism, ready to leap into flame at any time—intelligent, liberal, humanitarian. We went especially to explore the workings of the Taos County Cooperative Health Association, headquarters in the famous old village of that name. Even though we lost our glasses and went blind the last day, the experience was memorable.

In Taos County a post-war pattern of medical care for low-income people is being tried experimentally by the Farm Security Administration. Over 6 thousand people in this county—all in families with less than $1,500 annual income, many of whom never knew what any, much less good, medical care was—now depend on the health association. It is a matter of life and death to them, as you readily discover on entering the humble homes of these gentle-mannered Spanish-Americans.

Complete medical coverage is being provided these Taos people at an annual rate of $72 per family, averaging 5.2 persons in size. The bigger the family, the smaller the payment it makes, at the same income level—an old Spanish custom. These payments, added to the FSA grant, finance the service. Contract arrangements have been made with existing hospitals and cooperative plans have just been worked out with the Taos Pueblo Indian Hospital. Emergency dentistry is included.

Seeing is believing

But you have to see the service in operation to know what it means. Here in a county characterized by very high infant mortality, maternal death, and tuberculosis rates, a people—long so superstitious that the elders still advise eating live head lice to cure tuberculosis—are learning what modern scientific medical care means. They learn what it means also in the hands of a kindly medical director, W. A. Onstein, M. D., his assisting physicians and dentists, and of some of the finest nurses you ever saw. Each nurse also gave up better paying opportunities to work here.

Even the tragedy of death is handled with sound psychology and deft discretion. Indeed, we saw the supervising nurse, Elfreda Sprague, exercise such skill, with a family bereaved but two or three days before of a beautiful daughter who died of tuberculosis, that she made the occasion an opportunity for extending X-ray and preventive measures to the entire family—including quite remote relatives—who promised to come to Taos en masse within a week for an examination.

It would take more space than we have to tell you all about the fierce idealistic intensity with which the staff works in this county. The supervising nurse is about the most competent person we ever saw in her profession. The system has evolved around three clinics, or medical centers, in Taos and in the northern and southern parts of the county, and two sub-clinics, the latter each being open one day weekly. The entire medical staff is salaried—a fulltime and a part-time doctor, two interns from Mexico, a dentist, and four nurses.

Few, if any, dollars, spent by our Department bring a richer harvest than these rather gingerly sown in the resistant soil of Taos County. Here rural citizens are made conscious that they are truly Americans with all rights to our American heritage of good health. But here also every individual concerned does far more than the mere job calls for, and all announce themselves more lavishly repaid by the consciousness of service to others, and the gratitude of those others, than they ever could be in money alone.

Fat salvage still necessary: There is as great a need as ever for the Fat Salvage Campaign. WFA says that for the year beginning October 1 the supply of edible and inedible fats and oils was expected to be some 700,000,000 pounds less than in the previous year. It's estimated that *500,000,000 pounds of fats are wasted each year* in households and eating places. The byproducts of salvaged household fats are essential to the war effort. Let's keep on backing this campaign.

New WFA staff agency

ADMINISTRATOR'S Memorandum No. 27, Supplement 10, issued October 26, set up an Office of Surplus Property and Reconversion as a WFA staff agency. It will supervise and coordinate the functions of other WFA agencies—especially Office of Distribution, Office of Materials and Facilities, Agricultural Adjustment Agency, and Commodity Credit Corporation—in surplus-property disposal, reconversion, and contract settlement. It will also assist the War Food Administrator in the formulation of policies and procedures in these fields.

David Meeker, former chief of the Farm Machinery and Supplies Branch, M & F, will be director of the new agency. A graduate of the University of Missouri, and a former county agent and district Extension agent in that State, Meeker entered the Bureau of Agricultural Economics in 1939. Later he was an assistant to the Secretary of Agriculture and then assistant director of the former Office for Agricultural Defense Relations. Leon B. Taylor replaces Mr. Meeker.

Let's finish the job!

THE Sixth War Loan Drive opened officially November 20. There is every reason now and throughout the war for each one of us to put just as much as we can in war bonds. We thus invest in our own and well as in our country's future. Because *the cost of the warfare in the Pacific is expected to be even greater than that in Europe,* we should give even more support to this financing program than before.

The quota for USDA–WFA employees in Washington and the field is $4,577,677.71, or 35 percent of each employee's monthly salary. Payroll deductions, as well as cash sales, for the entire months of November and December will count towards the quota. The Office of Personnel says that now 86.9 percent of the employees are regularly investing 10.3 percent of their salaries in war bonds under the payroll deduction.

Let's help put this drive over the top!

Apple juice concentrate: The Agricultural Research Administration reports that apple juice with the natural fresh cider taste may soon be available as the result of work at the Eastern Regional Research Laboratory. The new product is a concentrate which can be reconstituted, by adding water, to apple juice which looks and tastes just like fresh cider. If interested in the method, get Circular AIC–63 from the Laboratory, Philadelphia 18, Pa.

Supervisor evaluation

EVALUATION of subordinates is nothing unusual. But how about supervisors? Possibly some very interesting results would be obtained if subordinates were called upon to evaluate the persons for whom they work. Upon what basis might such evaluation take place?

The Office of Personnel used an interesting questionnaire in making one such survey. Subordinate employees were asked to pick out the most successful supervisor under whom they had ever worked. They were then asked to list under appropriate heads the acts and attitudes which contributed to his success. At the same time they were asked for similar comment on the weaker supervisors.

In case some of you might like to undertake a little essay in amateur supervisor evaluation, the following headings on this questionnaire may be of interest to you:

Methods of planning his work?
Evidence of interest in employees?
Fairness and impartiality?
Display of enthusiam?
Recognition of work well done?
Assignment of work?
Opportunity provided for employee participation?
Starting a new employee?
Employee discipline?

Other attitudes or work methods contributing to success, such as leadership, broad intelligence, philosophy of service, willingness to take the blame for own mistakes, ability to make decisions and abide by them, mental alertness, democratic attitude, inspiring loyalty and respect, etc.

Who else would like to do some supervisor rating? Would these headings serve the purpose?

Jobs hunt this man!

THIS is a story of job hunting in the reverse. It concerns a man whom jobs have been hunting for many years. He is Benjamin Y. Morrison, Principal Horticulturist in Charge of the Division of Plant Exploration and Introduction, Bureau of Plant Industry, Soils, and Agricultural Engineering; Acting Director of the National Aboretum; Editor, since 1926, of the National Horticultural Magazine; and popular lecturer and after-dinner speaker.

Despite all these activities, he succeeds pretty well in keeping himself in the background. There recently appeared in a national magazine, for example, an article based in part on interviews with Morrison, discussing some of the rather spectacular achievements of his Division in improving American agriculture through plant introductions—with never a mention of the man who has directed the work since 1934. And this is not the only such article. (See *USDA,* November 13, p. 3.)

Morrison himself likes to plan it that way. He tells you that his role is merely that of the "front" needed for administrative work. He says the real men are *behind* that particular front. "B. Y.'s" pride is in the well-equipped plant-introduction gardens and greenhouses he has developed in this country, the staff of technical workers at these stations, and the staff of botanists he has built up at headquarters.

Whatever the credit arrangements are, the 10 years during which Ben Morrison has directed the work have been extremely fruitful and have witnessed truly remarkable advances in technique. He has built well on the foundations put down by his predecessors in the office—David Fairchild and Knowles Ryerson. No longer do explorers travel far and wide merely to send back anything that seems likely to be of value to this country. When they start out now, they know what they want and where it is likely to be found. Ryerson started this new attack, and Dr. E. C. Auchter, when Chief of the BPISAE, put over the idea, of sending crop specialists in the hunt. From them Ben caught the torch—and he has held it high, no question about that!

A versatile man

He received his B. S. from the University of California in 1913; his M. L. A. from Harvard in 1915. In 1920 he came to the Department. In the early days of his service he did some "pinch hitting" as a cartographer and illustrator, and several of the Department's bulletins contain fine illustrations from his pen.

His wide travels in Europe, the Orient, and Latin America gave him such a splendid background of knowledge about plants and their environment that he was an inevitable choice for Acting Director of the National Arboretum, a position he has held since 1937, and in which he has helped lay the foundation for what will unquestionably become one of the world's finest arboretums. During the latter part of 1943 he was loaned to Latin America to conduct a survey and help plan the future for the cinchona growing there.

Quite a man, Ben Morrison, and a good bit more interesting than any sketch of him could be!—J. A. FERRALL, PISAE.

Meet the Farmers: Read Ladd Haystead's book of that name. It is as easy a way as we know for you to gain a personal introduction to thirty million Americans on farms. Besides it's brief and readable.

Putting science to work

THE activities of the USDA offer an excellent example of how to put scientific knowledge to work. During the earlier part of its history the Department's policy changed very slowly. It was first characterized by research and instruction in improved production techniques which enabled farmers to increase their crops or to produce the same quantities with less labor. New varieties were bred; new methods of cultivation and fertilization were devised; insects and plant and animal diseases were combated better.

The cost of the farm output per unit was decreased while volume increased. But this sort of activity ultimately proved insufficient. Some 30 or 40 years ago public agencies began to study the farm as a business enterprise. There followed recognition that markets and prices had as much to do with the farmer's failure or success as his skill and industry. Hence began investigation of market conditions, practices, and prices; crop-reporting services were improved; and facilities were developed for the standardization of commodities.

Public responsibility

Next came recognition of public responsibility for the people's welfare in ever-widening waves. There arose recognition of the farmer's abject dependence on credit conditions, land values, land-tenure methods, the conditions of land settlement, and nonfarm uses of land. The farmer began to get definite credit aid.

Passage of the first Agricultural Adjustment Act represented recognition of the fact that the agricultural industry must be visualized as a whole and fitted properly into its economic environment. This meant comprehensive agricultural planning and definite investment in the reforestation of submarginal lands, in soil conservation, and in broad study of scientific land utilization.

Concern with land use became paramount. Much land had been drained and put into cultivation with the annihilation of game and waterfowl, though it was really not needed for crops, domestic and foreign economic conditions considered. Some of it was far better reflooded and given over to waterfowl again; some needed reforestation or a return to grass. New uses had to be discovered also for submarginal land withdrawn from export production.

What lies ahead

Reforestation, soil conservation, and expansion of wildlife were all encouraged. Attempts were made to coordinate crops with uses. Land not in farms as well as that in farms had to be considered. Land tenure, farm taxation and capitalization, allocation of land resources to various uses, the effects of uncontrolled farm expansion, and the bearing of individual land use on the public interest and on flood control and soil conservation had to be considered.

Future, post-war needs must now be envisaged. Our frontier is gone; land planning must increase. Soil erosion, which, Hugh Bennett says, levies an annual tax on us of almost 4 billion dollars, must be greatly reduced. National-forest management must be extended. We must also aim at reduced costs of farm production with such regulation of the volume of agricultural commodities as will meet needs, while rational land use, planned nationally, will aid further in putting science to work in our huge farm plant.

Brief but important

Correspondence courses: The Department Graduate School is distributing new correspondence catalogues to all field employees Fifteen courses are now, or will soon be, available for field people. All of them have been set up with the special needs of field employees in mind. Any employee who fails to receive a catalogue may obtain one by writing the Graduate School, USDA, Washington 25.

Death of a scholar: The death of Dr. J. S. Clark, former head and then president emeritus of Southern University (see *USDA* May 27, 1944), has just been announced. The editor met this kindly and gifted individual when he visited Southern University, a Negro land-grant college near Baton Rouge, La., a few months ago. He was a scholar and a gentleman, deeply religious, yet full of gracious tolerance. It was a pleasure to have coffee in his home. He once refused to be United States Minister to Liberia because he loved Southern so well he wanted to stick there. Sherman Briscoe, Press Service, Office of Information, took his degree under Dr. Clark.

Hold it! Don't throw away your garden tools! Victory Gardens will still be in fashion in 1945. We shall continue to need fresh fruits and vegetables in abundant supply. National garden leaders met November 28–29 to plan the campaign for next year. Present Victory Garden organizations as well as garden tools should be maintained in useful condition.

REA proposes: A 5-year rural electrification program was recently proposed by REA. It would create a $5,546,283,000 outlet for goods and services and provide electricity for 3,655,000 more rural homes. For more than 6,344,000 occupied rural dwellings do not yet have central station electric service. According to the plan new lines would be constructed both by public and private financing. The ultimate ideal is electric service for all rural people. Such a program would, if carried out, provide tremendous stimulus to private employment.

Director of Water Utilization: Ralph R. Will was designated Director of Water Utilization in WFA, November 10. He will have general supervision over and coordinate the functions and responsibilities of all WFA agencies concerned with water development, use, and disposal. He is directly responsible to the War Food Administrator, but will work closely with the Land Use Coordinator. WFA agencies remain responsible for hitherto assigned functions involving water development, use, and disposal. When critical materials or facilities are involved under priority or allocation control the Director of Materials and Facilities enters the picture.

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USDA

FOR DECEMBER 11, 1944

Forest Service

THE Forest Service "views with alarm." It keeps warning us that if we don't watch out we'll be caught with our natural resources down.

FS finds plenty of cause for such a warning. In the three decades prior to the war our total volume of standing saw timber was reduced almost 40 percent. Current annual growth of timber is only about two-thirds of the current drain. We are using up our growing stock without adequate provision for new growth.

It was alarm over the rapid depletion of our timber resources that led to the appointment of a special agent in the Department in 1876 to study our forest situation. Thus began Government forest work. In 1881 a Division of Forestry was created in the Department, but for some years its small appropriation allowed it to do little more than compile general information on forest conditions and offer advice—in case anyone was interested. In 1901 the Division became the Bureau of Forestry, with the dynamic Gifford Pinchot as its Chief, and the conservation crusade began to develop full steam.

Meanwhile, Congress in 1891 had authorized the President to set aside forest reserves to save the remaining timber on the public domain from destruction. Congress, however, made no provision for protecting or managing the reserves, then under the General Land Office, and for several years they just sat there, with fire, uncontrolled grazing, and timber stealers still hacking at their vitals.

In 1905 the forest reserves were transferred to the USDA, and at the same time the Bureau of Forestry became FS. Its charge from Secretary "Tama Jim" Wilson, in taking over the reserves, was to administer them for "the greatest good to the greatest number in the long run"—and that has been FS's guiding principle ever since.

Pointing with pride

While viewing with alarm, FS can also "point with pride" to many significant accomplishments. It has spearheaded the whole forest conservation movement; it has brought the word "conservation" into the Nation's vocabulary and has given it new meaning.

The forest reserves, now known as national forests, have been developed into a highly successful public-forest system. FS research—which started almost from scratch, since forestry was a brand new idea in this country—is constantly developing improved techniques for handling our varied forest types. The world-famous Forest Products Laboratory at Madison, Wis., has pointed the way to saving millions of dollars and to making wood an ever more versatile and valuable material.

FS has tackled some tough jobs. It had a big share in getting the Civilian Conservation Corps program started almost overnight; it took on the huge timber-salvage job after the 1938 New England hurricane. The Emergency Rubber (Guayule) Project, the Timber Production War Project, and the Alaska Spruce Log Program are recent man-sized jobs. FS pioneered in the development of conservation methods of grazing western ranges. Under the Weeks Law of 1911, it has purchased some 18 million acres for national-forest purposes (a sizable real-estate operation). Under the Clarke-McNary Law of 1924, organized fire-protection work and distribution of trees for farm planting are carried on cooperatively with more than 40 States.

The future

To the foresters, however, the biggest jobs still lie ahead. The downward trend of our forest resources has yet to be stopped; millions of acres of depleted forest land must be restored to productivity. If future national requirements for timber are to be met adequately, our annual rate of timber growth will have to be doubled.

The forest-conservation crusade which started with Gifford Pinchot is still going strong. As FS sees it, the major requirements yet to be achieved in a national forestry program that will assure abundant and permanent timber supplies include: Nation-wide application of rules for timber cutting sufficient to stop further depletion and keep forest lands in reasonably productive condition; more cooperative aids for forest owners to encourage good forest practice; extension of public forests, especially involving those lands so depleted or so low in productivity that there is little prospect of their rehabilitation through private enterprise. Since January 1943 Lyle F. Watts has been Chief of FS.—C. E. RANDALL, FS.

School Lunch Program

THE SCHOOL LUNCH PROGRAM is getting under way again, almost too much so in some instances. Dropping into the regional office of the Office of Distribution in Chicago the other day the editor found members of the staff rather agitated because demand for the program in several Mid-western States is so great that it cannot be met with available funds.

In one of the States it may be necessary to trim participation drastically or practically call the program to a halt 3 or 4 months before the end of the fiscal year. Such trimming obviously would be unpopular. The problem is to arrive at a balance between participation and available funds.

Agricultural leaders know the value of the program from both a short-time and long-time standpoint. They realize the part the program can play in the development of new markets, and how it serves to move food supplies in local abundance.

Meanwhile, school teachers and superintendents where the program has operated express universal satisfaction with the results. Their letters indicate that expenditures incident to the program bring large, if at times, intangible and immediately unobserved, unearned increments. In the long run, pecuniarly returns are undoubtedly rich.

First of all, according to the letters, the general health of school children is improved during the critical period of growth, when malnutrition can easily lay a foundation for chronic physical and mental retardation. Such chronic ill-health in later life brings large expeditures for medical and often institutional care. These are avoided to a great extent by better feeding in youth.

The general health of youngsters who get the school lunches is obviously better. There are marked increases in weight. Clinical tests show higher hemoglobin counts, while evidences of subclinical malnutrition disappear. Reports to nurses for minor illnesses are lessened. Skin diseases become less prevalent.

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Well-fed kids behave

What is more, nervousness and inattention are reduced in the better-fed children. School attendance amends, children learn more easily, and are more alert mentally. Fellowship between pupils and teachers improves. Failing grades decline. Undoubtedly better-fed children go through school more quickly and at less monetary expense to the State, not to mention the drain on the teacher's patience.

In addition, deportment improves, so does concentration on and attention to school work. It appears that better-fed children are less likely to become problem children or delinquents. Many disciplinary problems disappear since the children were "bad" because fatigued by underfeeding.

Previous food habits have in many cases been atrocious, both at home and away. There was a strong tendency for the children to have too much carbohydrate in their diets. Under the School Lunch Programs they develop the desire for new and better foods. By demanding these foods at home they raise the family nutrition level. They also undergo a reformation in manners and social behavior at the table—so teachers write.

All in all, the $50,000,000 to be expended for school lunches is a sound social and economic investment.

Marauding grasshoppers

AT DENVER, Dr. Claude Wakeland has his headquarters as Chief of Bureau of Entomology and Plant Quarantine's Division of Grasshopper Control and, as you might imagine, the grasshopper does not supinely lend itself to control either. This work got under way when Federal funds were made available for aid to States in 1938. About 24 States suffer badly from the ravages of grasshoppers and Mormon crickets.

The Mormon cricket is about as bad as the grasshopper. It was so named because it came as a plague to Utah in early Mormon days and tradition has it that the seagulls flew in from the sea, in answer to prayer, to eat up the crickets and give relief. But the Mormon cricket is highly mobile, and its prevalence in coming seasons is difficult to predict from adults found in specified localities the previous fall.

Spot counts are made of egg-laying adult grasshoppers to enable the entomologists to judge the probable damage grasshoppers will do next season. Resurveys are made for the actual prevalence of eggs, and these are checked against the earlier estimates. Maps are drawn at Denver on which the probable prevalence of crickets or grasshoppers in various areas is indicated by different colors.

The quantity of bait to be used is planned on a basis of these surveys and predictions. Control measures, while less successful than the bug-men wish they were, nevertheless pay ample dividends over and above their cost, in crops saved from destruction in whole or in part.

Cotton classing

THE EDITOR recently visited Hughes Butterworth of the Office of Distribution, and his staff in El Paso. They, like workers in 23 other cotton-classing offices in the South, have worked cotton classing out to a scientific mass-production basis. This function was formerly carried on by the Bureau of Agricultural Economics, then went into the former Agricultural Marketing Service, and then to OD.

Cotton is classed according to staple length and grade, which embraces color, foreign matter, and ginning preparation. Classifiers are quick-action experts. Classing has been set up on an assembly-line basis in order to handle more than 6 million classifications a year. For from 180,000 to 200,000 bales are classed each season in El Paso alone, at the rate of about 500 bales daily.

The loose cotton accumulated as surplus Government property in this work is of a value almost sufficient to pay for the extra seasonal help used! That gives you an idea of the scale of operations.

Classifications must be accurate too, as they form a basis for loans, sales, and purchases. There are differences in value of more than $100 per bale between certain low-grade, short-staple and high-grade, long-staple American upland cotton. The Commodity Credit Corporation accepts these classifications as a basis for loans. An Appeal Board in Washington and an Appeal Board Committee in Memphis, Tenn., pass on disputed classifications.

Here is Government work carried on with the most businesslike efficiency. Short-cut and improved methods have been developed by the staff. No activity, public or private, is more expertly performed than cotton classification by OD.

Harry Vaughn Harlan: Dr. Harlan, agronomist and USDA employee since 1905, died recently in Phoenix, Ariz. He has been with the Bureau of Plant Industry, Soils and Agricultural Engineering since 1910, serving partly as a plant employer in Peru, North Africa, and India, and was in charge of barley investigations. He is the author of many scientific papers and also of travel articles. Barley acreage in the U. S. is now planted largely to improved varieties resulting from his researches.

Marvin Jones and farming

HOW MUCH do you know about the career of the quiet, unassuming War Food Administrator, Marvin Jones, and of his close connection with agriculture? Do you sometimes think of him as just an outsider who has a war job here among us? Well, you're wrong.

Born on a Texas farm, he earned his college expenses teaching a country school when he was only 17. He also raised cotton and wheat as a tenant farmer and worked on ranches as a cowboy during vacations. He played baseball at college (John B. Denton College and Southwestern University) and wrote pieces for magazines and newspapers. He made the debating teams and won a medal for oratory.

After graduation he spent 8 years as a plains lawyer in Amarillo and vicinity. In 1916 he was elected to Congress from a Texas district including 53 counties and 51,000 square miles. (Is Texas big? Who asked?) Jones served 20 years on the House Committee on Agriculture. He was Chairman of the Committee 1931–40.

Agriculture is deeply indebted to him, for he fought with determination and success for many beneficial farm measures. He got things done with a minimum of oratory and controversy. His pleasing personality helped him here immensely.

Legislation sponsored

Specifically, Marvin Jones introduced and sponsored the passage of the Agricultural Adjustment Act of 1938. He was joint author of the Bankhead-Jones Farm Tenant Act and the Jones-Connally Cattle Act. He was the author of several annual crop and feed loan acts, and also of the permanent law now in effect, as well as of the Farm Credit Act, the Soil Conservation and Domestic Allotment Act, an act sponsoring efforts to find new uses for cotton, the act on merchantable and nonmerchantable cotton, and the 1937 act which established a water conservation program for the Great Plains area.

Jones was sponsor and author of the Commodity Exchange Act, enacted by the Seventy-fourth Congress, and he led the fights for passage of the original Agricultural Adjustment Act, a section of the AAA law of 1938 dealing with the removal of freight-rate discriminations against agricultural products, and the act upon which our sugar program is based. Our Bankhead-Jones Laboratories bear his name.

As you probably know, Jones resigned from Congress to become a judge on the United States Court of Claims in late 1940, he became agricultural adviser to Director of Economic Stabilization Byrnes, in January 1943, and War Food Administrator some 6 months later. He was President of the United Nations Conference on Food and Agriculture.

He has few recreations or hobbies. But he reads a lot—likes Wild West movies and hunting. Before the war he often went fishing—and probably will again after it is won!

Bugs to you

THAT ISN'T what the entomologists call them, but we might as well. Not long since, in Dallas, Dr. Ernest W. Laake of the Bureau of Entomology and Plant Quarantine, told us about the cattle grub, not to mention heel flies, (the grub's other name), horn flies, the cattle tick, and the screwworm, which also occupy the attention of Laake and his colleagues.

But the cattle grub, says Dr. Laake, is the No. 1 menace to local livestock. Grubs affect about 35 percent of the cattle slaughtered. All-told they probably cost the cattle industry $350,000,000 a year. They injure so many hides where these are best for leather that a million soldiers could be shod with the leather they destroy. Five holes per hide are sufficient to de-grade the leather.

Then the grubs not only injure the meat, but prevent the animal from laying on flesh properly. Devaluations due to grubbiness and the cutting away of 2 or 3 pounds of meat per carcass sometimes reduce values of cattle more than $3 per head at slaughter. Furthermore the animals would probably lay on 12 to 14 pounds more meat each if the grub were conquered. As it takes 6 pounds of feed to make 1 pound of flesh, you can see how that could affect the feed industry.

Grubs also cut milk yields of dairy cattle, and heavily reduce the production of high-priced "baby beef," the carcass being stored unskinned to make the latter. Naturally when wartime made additional demands for meat, the grub came under severe attack. Rotenone is the answer, used when it does the most good. War on the grub is continuous, and highly successful when EPQ control methods are used.

FFFF advertising: "Now it can be revealed," as the radio commentators say, that Government mats on Food Fights for Freedom programs have been used in 2,110 advertisements since March 1. Proofs were sent to daily newspapers and formula folders telling about the ads were sent to advertisers who might desire to sponsor them. The ads used were generally paid for by the advertisers who received the formula folders.

Policy

TWO ladies on the bus were discussing their work in a department store. One remarked: "I don't know whether to stay for that style show tonight or not; I'm so tired." Said the other:

"You better. That store of ours is all politics. It will be much safer for you to stay and be seen. Policy is determined by Mr. A., Mr. B., and Mrs. C., and the greatest of these is Mrs. C. What suits Mrs. C. is policy. Mrs. C. would prefer to see you at the style show. Take the advice of an old hand on that."

Many private enterprises are full of politics. Sometimes even Government agencies are: But when policy gets to be determined by an inner clique or, worse still, by a single individual, the institution, whatever it is, is in a bad way. In a democracy no single individual and no clique should or can speak for the institution as a whole.

Policy should be determined by the democratic process. The democratic process is both a reconciliation of competitive factions and a resolution of conflict in and among warring ideas. No single individual, however high up or low down in the scale, can properly speak with the voice of an institution.

Institutions and employees

The editor of *USDA* may, for instance, in a small way speak for it. But he cannot speak authoritatively for his own agency, much less for any other. Every article you read in *USDA*, no matter how trifling it appears, has first been brought to the attention of the agency most concerned. Later the Editorial Advisory Board passes on it from the standpoint of factual accuracy, interagency relationships, and over-all policy.

It is only right that we should operate thus. Unless a policy line represents the best thinking of all individuals capable of thinking well, it cannot hope to further the institution's service to the public.

Every agency must at some point speak as an institution, to avoid conflict and confusion. But the speaking should be done, insofar as possible, actually by the agency as a whole, and not dictatorially by any individual or clique therein.

A final thought: Individual employees should be careful not to implicate the institution when stating their personal opinions in public, whether in speeches or in writing. No institution like the USDA can assume liability for personal opinions of its employees. These they should express merely as citizens, and never in such a way as to create the impression that they are official pronouncements—unless they actually are such.

Crop estimates

NOT LONG ago Stewart Bryan of the Bureau of Agricultural Economics, who works along with a group of State employees in Little Rock, explained the techniques and mysteries of crop estimating to us. He had just sent out 16,000 acreage–estimate questionnaires, with the cooperation of the Post Office and the rural mail carriers.

On the assumption that the 10,300 regular volunteer crop reporters in Arkansas might be a selected, and perhaps above-average-intelligent group, this random sample was being used as a check. But correlation between these two kinds of reports is usually close, whether they concern acreages in crops or livestock numbers. Checks are also made of growers who specialize in single crops.

Cotton ginners are asked to estimate the cotton crop, too. They are very accurate at the beginning of the season, when most of the cotton is in the field, and at the end, when most of it has been ginned, but their mid-season estimates are often spotty. However, a recent BAE crop estimate of 404,000 bales for Arkansas, as against an actual crop count of 406,000, seems pretty close to us. Indeed crop estimates are usually very accurate.

Oddly enough, farmers tend consistently to underestimate their acreages, either through overcaution or for fear of being kidded later about not doing as well as they predicted they would. Truck croppers often say they are too busy to make estimates in season; after the season is over, they wouldn't care. But good estimates are secured anyway. Bryan, like other such BAE workers, sits all day drawing, examining, and prognosticating from charts and graphs. He seemed very happy in his work. As long as it comes out as well as it regularly does, he should be!

In Russia: Lt. Col. Ralph W. Olmstead, Deputy Director of Supply, Office of Distribution, just returned from Russia. Asked how the Russians were eating he replied:

"First I want to make it clear that the vast bulk of American lend-lease food is going only to Russia's fighting men. The civil population gives up everything to feed the armies and civilian rations are scanty and monotonous. It seemed to me that the major civilian ration was composed of black bread, potatoes, and cabbage. Under the food regulations the people are entitled to 10 pounds of fat per year, if it is available, and I'm told that often it is not available, but despite every handicap these people go on. I saw many ruined villages and cities and one thing that impressed me very forcibly was that the first buildings to be reconstructed were schools. Russia is not only doing the job at hand, now, but is planning for the future."

Lee Marshall of OD

NOT MANY people plan their arrivals so as to be born in a town already named for them. But that's the way it happened with Lee Marshall, Director of Distribution. He arrived in Marshall, Mo., June 17, 1884—and has done a lot of moving since then.

With a number of successful business executives—and Marshall qualifies under that heading—the "office-boy-to-president-of-a-company" pattern has unfolded with the years. It worked that way for the present Director of Distribution too. "Only," he says, "being office boy was not the bottom of the ladder for me. Office boy represented a big promotion in my case, because I graduated in that position with a dignified investment house after serving as bat boy for the Kansas City Blues baseball team."

A lot of intensive business experience has been crowded into the years between the bat boy-office boy period and the present—which still finds Lee Marshall the chairman of the Board of Directors of Continental Baking Co. Coincident with the bat boy-office boy era, were dabblings in experience as a Western Union messenger, a newsboy, and an iron-foundry worker. Even as a meat salesman, the young business man doubled as a stenographer when necessary.

There was a period when, as salesman for a meat packer, young Marshall had a route through Missouri's Ozark Mountains. In those days, neither automobiles, nor roads on which they could be used, complicated Ozark Mountain life, and Lee traveled his route on horseback. It was too rugged even for horse-and-buggy navigation.

This early, diversified training was simply preparation for his real work, which began when he became a merchandise broker, and then specialized as a flour broker. As he puts it, "When I got the feel of flour in my fingers, I was in the bakery business for life, even if I didn't know it then."

Baker to Bureaucrat

Affiliations with various bakery companies gave Marshall the background and the wide experience that led him to help form the Continental Baking Co. in 1926. He was immediately elected vice president, and became chairman of the board in 1927. He also served as president of that company from 1934 through January 1943, when he was, for a second time, given leave of absence to devote himself more fully to Government war food work.

Director Marshall's first extensive Government work came only after he had had about 40 years of private industrial experience. In April 1942 he was called by the War Department to organize and head their Shipping Procedures Branch. Other Government assignments have since prevented his permanent return to Continental. Donald Nelson, then WPB head, named Marshall as his Food Consultant. In May of 1943, the erstwhile bakery executive was appointed Deputy Administrator of WFA, in charge of the Office of Materials and Facilities. Then, in November 1943, for a period of 2 months, he got back to the bakery business.

On January 14, 1944, Marshall returned to his biggest food job for the Government. He became Director of Food Distribution, succeeding Roy F. Hendrickson who went to United Nations Relief and Rehabilitation Administration.

Though he has made his home in New York for some time the Director says, "I'm just a retread New Yorker, after my early midwestern background. They can take a man from the Midwest, but I guess it's impossible to take the Midwest from the man."

Both business and government associates agree that Marshall gets things done in jig time, and he hates red tape. Not bad qualifications for a man who must keep a tremendous war job moving successfully.—GRANVILLE DICKEY, OD

Outlook

HERE follow, in the very broadest strokes, the impressions the editor got on various subjects by attending the 22nd Annual Agricultural Outlook Conference, November 13–18:

Gardens: Continuation of the 1944 program during 1945. Keep up the good work.

Farm Production: About the same total acreage as last year; slight increases in pigs farrowed, milk production, and cattle slaughtered. "We cannot risk the possibility of a shortage," says Judge Jones.

Machinery and supplies: Machinery about the same as last year. Supplies should be more plentiful.

Labor: Tight situation will continue but WFA will do all it can to alleviate shortages.

Civilian food supplies: Civilians can look forward to about as much food, over-all, in 1945 as they had in 1944. None should be compelled to subsist on nutritionally inadequate diets. As usual in wartime, local shortages and gluts will appear.

Credit: Farmers have been paying off debts, improving their plants, buying War Bonds, and saving. Farm credit conditions are far better than during World War I. We can still get through without dangerous farm land inflation *if we watch our step.*

Post-war production: Farm prosperity in the post-war period depends on a high level of industrial activity and low unemployment. Our farmers can increase production 10–15 percent more in the next 5 years, or 45–50 percent above the pre-war level, 1935–39, if they have market incentive to do so. Incidentally our wartime food output is right now 58 percent above the 1917–18 average.

Brief but important

Aside on pork: Pork and bacon are scarce because there was a 24-percent reduction in the spring pig crop and because we are just emerging from the seasonal low for hog marketing. We may have a little more pork in December and January. But the Government is taking about 45 percent of the dressed weight of pork and military needs for pork increase, hence less bacon for civilians than last winter. Nor did we have storage space to hoard pork during peak production. We also lacked ships to send it to our allies or our armed forces. So it went to civilians point-free. Q. E. D.

Big blow: The hurricane was a big blow to citrus crops in more ways than one. It came when the fruit hung heaviest on Florida trees. It blew down about 15½ million boxes of grapefruit—only 600,000 boxes could be salvaged. The fruit not blown down will be lowered in grades. The orange crop took a storm loss of 10 million boxes. Few blown-off oranges can be salvaged. Nearly a fifth of the tangerine crop was lost. A grand crop of all citrus fruits was on the trees until the big wind came along.

Retired employees: The Office of Personnel would like cooperation in securing the current addresses of retired and retiring employees. Formation of an organization of retired USDA employees has been proposed and Pers. feels this is an excellent idea. Such organizations of retired employees are also desired in the field. Incidentally, the proposal that retired employees be given the opportunity to get *USDA* regularly if they care to have it, was carried at the November 15 meeting of the house organ's editorial advisory board. When the mailing lists are checked annually retired employees who do not care to continue getting *USDA* can be dropped.

Price supports: The Department Solicitor, Robert H. Shields, has produced a remarkable, useful though scholarly document on Federal statutory provisions relating to price support for agricultural commodities, a revision of an address delivered earlier in Denver. If you want a copy ask Press Service, Office of Information, for USDA 2947–44. His address before the current Agricultural Outlook Conference, delivered November 15, on Maximum Prices with Respect to Agricultural Commodities is just as excellent. If interested, ask Press Service for USDA 3535–44.

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USDA

FOR DECEMBER 25, 1944

OF COURSE, we wish you as merry a Christmas as possible under the circumstances, but more important—Did you buy bonds? Have you given blood? Are you cooperating to the full in all conservation and salvage campaigns? If so, you do deserve some fun today.

Beltsville

DESCRIBED in the Reader's Digest a couple of years ago as the "world's most fantastic farm," the Beltsville Research Center near Beltsville, Md.—about 13 miles from Washington, D. C.—where the Department carries on part of its research work, is really one of the largest areas in the world devoted to serious scientific experimentation. The Center is administered by the Agricultural Research Administration. Though some byproducts of the work there may seem to some people to be curiosities, the purpose is to develop practical methods for improving agriculture that can be adopted by American farmers.

In 1910 the Bureau of Animal Industry acquired a 500-acre tract in nearby Maryland as a proving ground for its experiments in animal husbandry. This land was originally part of Birmingham Manor, which belonged to the Snowden family of Maryland. The large house now occupied by C. A. Logan, superintendent of the research center, and his family, was built about 1785.

As other Department research agencies felt the need for laboratory and field space for their scientific work, more land was added to the tract, until now it covers 13,900 acres. The Bureau of Plant Industry, Soils, and Agricultural Engineering occupies about 1,300 acres on the west side of the Washington-Baltimore Boulevard; the larger acreage, used cooperatively by all the other agencies concerned, lies to the east of the boulevard.

In addition to ARA bureaus, several other Department agencies, the Fish and Wildlife Service of the Department of the Interior, and some other Government units, including war agencies, occupy space or utilize facilities there. The area is divided into experimental pastures, ranges, orchards, gardens, fields for cultivated crops, timber stands, and soil treatment plots. There are office and laboratory buildings, in addition to greenhouses, animal houses, barns, and other utility structures.

The wartime transportation situation, not to mention the 48-hour week, makes sightseeing trips to Beltsville impractical for the duration. An experimental station, anyway, is not a circus or amusement park, though in the past the favorite attraction of many visitors seemed to be the merry-go-round where the bulls are exercised.

What goes on

One interesting project of PISAE takes place in a shed that looks like a big garage with narrow-gage railroad tracks running into it. This set-up is for the study of the effect of length of day, or hours of daylight, on plant growth and production. Cars carrying growing plants can be run into the shed, where day and night are simulated by turning electric lights on and off. The experiments are designed to determine what performance to expect of plants in different latitudes and at different seasons. The length-of-day factor is significant in the development of strawberries, onions, soybeans, and many other crops. Varieties suited to a locality can be selected partly as a result of this study.

Located in a native woodland along a small stream is one of the two gardens where drug and related plants are grown. Here plants collected from woodlands all over the United States and in other parts of the world grow informally among the trees. The other garden is cultivated and contains at least 200 species and varieties of drug and condiment plants, among them belladonna, digitalis, pyrethrum, paprika, and tarragon. Some of these plants constitute the country's only reserve stock.

If you are interested in eating—and who isn't?—you would be interested in some of the goings-on at the laboratories of the Bureau of Human Nutrition and Home Economics. There juries selected from the employees try, not criminals, but new foods and recipes. A member of the jury gets many a succulent sample, as well as some not so succulent, upon which to pass judgment. In the same building, clothing design, textiles, household equipment, and all phases of nutrition are major projects.

Nectar for long tongues

Bees are interesting little creatures that not only make honey but perform a public service by pollinating the blossoms of some 50 important crops which without them would not bear fruit. Experiments in breeding strains of bees that will be resistant to bee diseases are being carried on at Beltsville. And soon old bees will be saying, "What a long tongue you have, grandchild!" and receiving the answer, "The better to reach the nectar in the long-necked flowers!" For bee breeders are developing long-tongued bees for this purpose.

In the experimental orchards, all kinds of fruit trees of this region are grown, and many exotics are tried out in the greenhouses. Across the road, where BAI and the Bureau of Dairy Industry hold forth, dairy and beef cattle, sheep, goats, horses, and poultry, as well as many small laboratory animals, live under ideal conditions for their kind. Nutrition, breeding, and other studies are made on the herds and flocks with the aim of finding ways of improving farm livestock. The entomologists maintain numbers of harmful insects for the purpose of finding quick, if not painless, methods of killing them.

The fruits of research may be improved methods, new products, better strains of plants or animals, or sometimes merely the missing key needed to solve a problem of long-standing. No listing will be made here, as outstanding and important results of the work at Beltsville have often been mentioned in *USDA* in the past and will be in the future. You may rest assured that the potential value of this research to the American public shows a magnificent profit on the public's investment in buildings, equipment, supplies, and salaries.—MARION J. DROWN, ARA.

WFA reorganized: A reorganization of the War Food Administration to take effect January 1, 1945, was announced December 13. The Office of Distribution and the Office of Production are to be abolished. Three new Offices, each headed by a Director, will replace them: The Office of Basic Commodities, the Office of Marketing Services, and the Office of Supply. Carl Farrington is to direct the first of these and Lee Marshall the other two. Functions, personnel, and property of Prod. dealing with feed management and crop production go to the Agricultural Adjustment Agency. The Federal Crop Insurance Corporation becomes an independent agency of WFA. Functions, personnel, and property of the Commodity Credit Corporation relating to the Cotton, Grain, General Crops, Hemp, Oilseeds, and Sugar Divisions go to the Office of Basic Commodities. Details about the make-up of the other two offices will be given later. In a broad general way this last represents a division of OD's old functions.

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Timber tester

HAROLD S. BETTS, who had the unofficial title of Dean of Forest Products, retired from the Forest Service in October after 42 years in the USDA. He was the first man in the Department to undertake timber testing, thus inaugurating research that is represented today by FS's Forest Products Laboratory at Madison, Wis., the premier wood-research center of the world.

Betts, a young mechanical engineer graduated from Stevens Institute of Technology, came to Washington in 1902 to test timber. The testing laboratory was in the basement of the old Chemistry Building on the corner of 14th St. and Independence Ave. SW in Washington.

In lieu of a tank, the Tidal Basin was used for soaking the beams, to test the effect of moisture on the strength of wood. In those days the beams were carted down to the basin, which then had no wall around it, and submerged with the aid of stones and pieces of iron. Markers attached to the beams enabled the testers—dressed in hip boots reluctantly supplied by the Department—to fish them out after several months of soaking. Later a tank was procured and set up under a shed close to the storage yard. Thus ended the hazards of soaking beams in the basin, where some floated away, beyond recovery.

In the early days of his career, Betts ran into plenty of exciting adventures on purely routine duties. On his first trip to test timber in the Southwest, he was caught in a wild melee in El Paso, with men on horseback—movie fashion—chasing an escaped prisoner.. One of the bullets glanced from a stone and wounded a girl in the knee. Otherwise there were no casualties. The bad man escaped.

Indian remains

On this same trip he stopped in the small town of Alamogordo, N. Mex. Finding no one at the station, he walked up to a baggage shed, hoping to find his bag. There being no one in the shed, he pushed open the door, walked in, and lit a match. To his surprise, he found on a baggage truck what was left of an Indian from a nearby reservation who had killed a rancher, been overtaken by a posse, and shot to pieces on the outskirts of the town.

One of Betts' contributions was to help terminate the speculation in *Eucalyptus* plantations which was afflicting the West. Large quantities of securities in *Eucalyptus* forests were being sold to the public. Betts and the late Stowell Smith, of FS, collected specimens of the different eucalypts growing in California and tested them at the University of California. The bulletin published on the basis of this work blew up the *Eucalyptus* bubble, since it showed that, though there were plenty of *Eucalyptus* trees, very little of the lumber could be satisfactorily seasoned.

It was Betts and McGarvey Cline who thought up the idea of a Forest Products Laboratory. Accustomed to hauling their heavy equipment around the country to test the various regional timbers, they thought, why not bring the wood to the machine rather than take the machine to the wood? Several universities and other institutions were sounded out on the matter of establishing a central laboratory. The University of Wisconsin offered the best inducements and Betts and Cline were sent to Madison to choose the site. A small building was constructed by the university and the laboratory formally got under way in 1910. The work expanded rapidly and eventually a large modernistic structure was built.

In 1912 Betts went to the laboratory, where he held a number of positions. Within a few years he was transferred to the Washington office, in charge of what was then the Office of Industrial Investigations, later called the Office of Forest Products.

In recent years one of his major accomplishments was to write a series of pamphlets on American woods. In all he covered about 50 species—the leading timber trees in the United States.—ANTHONY NETBOY, FS.

Item from Argentine

THE LIBRARY has received an imposing publication (13 by 20 inches and 3 inches thick) from Argentina, entitled "Genera et Species Plantarum Argentinarum." This volume includes genera in the families Cactaceae, Euphorbiaceae, and Zygophyllaceae treated by Argentine specialists and is beautifully illustrated with both black and white and colored plates. It is the first volume of a work sponsored by the Instituto Miguel Lillo of the University of Tucuman.

In 1913 a commission of botanists was appointed by the Argentine government, through the efforts of Miguel Lillo, an internationally known naturalist, to make a study of Argentine plants. The studies made during the subsequent 30 years finally led to the publication of the present volume in December 1943, in a limited edition. The copy sent to the Library is No. 180. The Library call number is 457.1 T79.

A review of this publication by T. H. Goodspeed has appeared in Science 100:445, Nov. 17, 1944, under the title: "Genera et Species Plantarum Argentinarum."

Of course you may prefer detective stories.

Van Deman, Pioneer Pomologist

"AN INSTITUTION," says Emerson, "is the lengthened shadow of a man." In proof of which we offer that rugged individualist, Henry E. Van Deman, first pomologist of the Department.

Born in Ohio, Van Deman, by the time he was 10, was so expert in budding fruit trees he was producing plants equal to those his father had been purchasing from commercial nurserymen. The Civil War interrupted this fruit work and Van Deman's schooling. He served with Company A of the First Ohio heavy artillery—and with distinction. After the war he moved to Kansas. Soon his way with plants was attracting wide attention and, in 1878, he was appointed the first professor of horticulture at Kansas Agricultural College. In a couple of years he had returned to his first love, the farm, believing he was settled for life. He was mistaken. In 1885 he was drafted to form the Division of Pomology in the Department.

He died April 28, 1915. Writing of him, Robert Sparks Walker, a former president of the Tennessee Horticultural Society, said: "There was not an atom of egotism in his personality. His simple life and his sweet humility contributed to his greatness."

Van Deman was interested in all phases of horticulture, and was a pioneer in advocating the introduction of plants from abroad. His obsession, however, was the belief that no research job is ever completed until the facts obtained have been placed at the disposal of those who need and can use them.

This brings us around to a worker in the Bureau of Human Nutrition and Home Economics who would delight Professor Van Deman's heart. She, too, has this obsession, and she has done something about it, for since that Bureau was organized in 1923 she has been in charge of its information services, quickly adopting each new medium that would help to interpret more fully to the families of this country scientific facts that might help them to be better fed, better clothed, better housed. Her name, too, is Van Deman, Ruth Van Deman. She is Professor Van Deman's daughter!—JOHN FERRALL, BPSAE.

In El Paso and Walsenburg

IT HAS long seemed of interest to know just what WFA–USDA field activities go on in a single town outside Washington. The opportunity recently presented itself, the editor embraced it, and he found the answer to this question for a city of 100,000 and a town of 5,000.

In El Paso, Tex., he found T. A. Arnold of the Bureau of Entomology and Plant Quarantine in charge of measures to prevent the pink bollworm from entering this country across the Rio Grande. J. W. Bulger carried on experiments in the scientific control of the measures used. The editor observed border inspection at the international bridge, and also the charming little fumigation plant where 15 freight cars can be doused with hydrocyanic acid at once!

Rail traffic from Mexico is up 200 to 300 percent now, so the EPQ boys have their work cut out. Special agents also examine all plants and green produce trundled across the bridge, peering deeply into grocery bags, and incinerating objectionable commodities. Joint policies are worked out with Mexico, which cooperates wholeheartedly. James S. Brock was handling the domestic side of EPQ's far-flung operations.

Meanwhile Dr. A. E. Wardlow, Bureau of Animal Industry, had charge of border patrol and animal inspection. Good lambs and sheep are coming from Mexico, also some good calves. These are examined for disease on the Mexico side. Animals which pass inspection are then brought over, dipped, and customs duties arranged.

Earl L. Fine, then but no longer Farm Security's county supervisor, was checking up on FSA tenant-purchase loans and on cotton yields in the valley district near McNary. Payments in general were good. Cotton land is rich and operations are expensive. It takes a while to get started, and the total loans allowable are scarcely sufficient, though they always pay out well in the end.

Meeting the enemy

Like the FSA county supervisor, the Extension county agent is plagued with many wartime and other duties outside his strict job sheet. Willett S. Foster was on the job here. He maintained such close relationship with the FSA office that his assistant was about to succeed Fine, who expected soon to go back to Lubbock, Tex. The editor rode with Foster out to an old CCC camp which was being transformed into a German prison set-up, the prisoners doing war work on farms.

The whole thing was at an informal stage. We were not challenged. We entered and, in trying to find the lieutenant in charge, in one case got into a mess hall with a gang of some 20 powerfully built late enemies. But they were all friendly and anxious to help, and only the language barrier prevented them from assisting us to find the lieutenant more quickly than we did. One of Foster's many wartime duties is to aid in the setting up of this camp.

Then we looked in on the cotton classing carried on by the Office of Distribution's Hughes Butterworth and capable staff of experts. Classifications made become a basis for sales and Government loans. Some 180,000–200,000 bales are classified here per season, and the discarded samplings from bales, used in the test when sold, bring the Treasury sufficient to pay all the extra seasonal help used in classing. A disparity in price as great as $20 to $100 a bale rests on such classification, but the cotton experts rarely miss out.

A comely Miss Byrne was found in charge of AAA and War Board activities, handling the program of payments for soil building and fertilizers, and other complicated wartime problems that trouble War Boards all over the land. Soil Conservation Service had workers up the valley in a soil-conservation district, but we didn't get to talk to them.

Walsenburg, Colo.

Later we looked in on Walsenburg, a town of 5,000 in Huerfano county, Colo., named after the famous Orphan butte north of the town. Philip Miles has long been Extension county agent and he pleased us by saying he liked *USDA*. The county has about a million acres but perhaps only about 500 really active farm operators, mostly sheep and livestock.

Here John Nuosi, back from the Army on a medical discharge, was handling FSA affairs, and was deep in all-day conference with a group of his clients. Kenneth Shanks, who also liked *USDA*, was handling SCS affairs, and Agnes J. Holderman, who had never seen a copy of the house organ, represented AAA. Mrs. Holderman said AAA work was of more value today than ever, some local farms having increased in value as much as 50 percent as a result. For now that they get AAA funds and expend them with SCS, they see what they are getting and really do build soil.

Few of us here in Washington have any idea of the multifarious and complex tasks our field workers undertake in every town of any size and its surrounding country. Few of us would have the correct psychology—for instance—to deal with and not alienate farmers who only half believe in the existence of peach mosaic anyway, and are ever hostile to strong-arm or arrogant methods. Our field workers are always closest to the man on the soil, often facing dislike, hostility, and even danger. More power to them.

Eleven o'clock, Armistice Day

SATURDAY, NOVEMBER 11, witnessed a brief but impressive ceremony, under the auspices of Plant Industry Station Employees Association, Beltsville, Md., in connection with the dedication of the station's service flag and honor roll, now bearing 313 blue and 6 gold stars. It was an all–Bureau affair.

Said Dr. Salter, Chief of Bureau, in concluding his dedicatory address:

> As this Honor Roll and Service Flag are now carried to their permanent place of honor they become for us a reminder of our obligation. We now dedicate this Honor Roll of the names of 313 of our fellow workers and this Service Flag with its blue and gold stars, and we dedicate ourselves to the cause that we all serve, renewing again our mutual pledge of our lives, our fortunes, and our sacred honor.

The Gold Stars are in memory of Lt. Col. Geo. E. Halliday, killed in Italy; 2d Lt. G. J. Henson, killed in an airplane accident in North Africa; Pvt. A. B. Herring, Jr., killed in action on Saipan; Betty Mabry, ensign, WAVES, who died in the Naval Hospital at Oakland, Calif.; Lt. J. M. O'Brian, killed in action in Normandy the day following the Invasion; and 1st Lt. H. S. Smith, killed in action on Guam, July 21, 1944, when the Marines returned to repossess that Island.

From Puerto Rico

THE FORMER Extension Editor from Puerto Rico, Jose M. Toro-Nazario, stepped in to see us a while back. How would you like his job? Here is an island with a population of 2 million, running about 600 per square mile, totally lacking rural free delivery, and in which many quite large towns or young cities even lack mail delivery. You can readily imagine how this complicates the lives of some 30 county and 30 home-demonstration agents, not to mention the director and the editor.

How would our agents in continental U. S. reach their people if they couldn't write to them? The question would become not one of being sure that what was mailed could properly be franked, but of going about personally and delivering the letters. Puerto Rico, of course, does not have counties. Its administrative units rather resemble New England townships in character, but for administrative purposes, Ext. divides the island up along its own lines.

Rural health

THE USDA always has been deeply interested in rural health. If you like diverting reading, and can find a copy of the Commissioner of Agriculture's annual report for 1862, you will find therein an article by a Dr. W. W. Hall of New York City on the Health of Farmer's Families. Part II, on the Hardships of Farmer's Wives, is especially revealing—one might say amusing.

The long and short of it was that, in 1862, farmers lived brief and sickly lives and wound up in the insane asylum much too often, while the hardships of their wives were abundant, and tended to drive them crazy, too. Of course, the wives had to live with the farmers, which accounted for much of their ill health and mental instability. The farmer was said to be indifferent to them and to make drudges out of them.

Though the farmer's wife, even then, was "as naturally tasteful, tidy, and neat in herself, and as to all her surroundings, as a beautiful canary, which bathes itself every morning," her whole existence was "poisoned by those daily tortures which come from her husband's thoughtlessness, his inconsideration, his hard nature, or his downright stupidity." That gives you an idea of Dr. Hall's style.

The farmers themselves neither ate nor dressed properly. They often ate hurriedly when tired, or left the house without breakfast. They were very prone to catch cold. They frequently got chilled, d e v e l o p e d consumption or asthma, and died miserably. They wore wet clothes instead of changing them, and far from rarely had corns. Such were farmers in 1862.

FSA to the rescue

Things could be better today, and Farm Security Administration is doing its best to help. Its Publication No. 129 is A Handbook On Health for Farm Families—please ask FSA for it, not the editor. The booklet runs only 16 pages, but is full of sage, scientific advice on good health and how to maintain it.

Proper food, recreation, clothing, accidents, sleep, cleanliness, and sanitation are all covered. There are instructions on what to do 'til the doctor comes, or perhaps these days, if he can't come. Then farm people are told how to treat the doctor, and are admonished that he needs some consideration during wartime when he is so excessively overworked.

Rural people are told what the State department of health, the Public Health nursing service, the Tuberculosis Association, the hospitals, the School Health Program, the County War Board, and the FSA group health plans can do for them. The booklet concludes with 16 Steps To Good Health. It has been approved by the U. S. Public Health Service and well merits *your* reading, let alone that of all farm people to the attention of whom you can bring it.

Brief but Important

Scarcities: Military needs for sulfuric acid are up. That means that WFA has had to reduce its estimate of phosphate fertilizer available in 1945, for it takes sulfuric to make superphosphate. This, in turn, will probably reduce the production of mixed fertilizers. *Farmers should order and accept delivery of the fertilizer they desire at once.* WPB, meanwhile, announces that the paper shortage is destined to last months yet. *Do not relax paper savings.* Consult Department Circular No. 16 on paper conservation. All information and administrative processed materials should still be single-spaced. *Continue to save paper.*

What USDA clubs would like to know: Inflation Control for Post-War Economic Stability was No. 1 choice of 1,836 USDA club members in 28 clubs, and a dozen agencies, as the topic of greatest interest among 16 subjects for 1944–45 discussion programs. The Nation-wide rating poll showed that Agricultural Opportunities for War Veterans stood second, and Public Aid for Conservation on Private Land, third. There are significant regional, area, and agency differences in choice of topics, but this over-all picture is most illuminating to us in Washington.

Victory Gardens: Nearly 18½ million Victory Gardens were grown in the U. S. in 1944, of which 12½ million were in urban areas. But 88 percent of our farm homes had gardens; the figure for nonfarm homes was just half that. More than two-thirds of our housewives did home canning, too. Carrots, tomatoes, and green leafy vegetables, the "protective" foods were widely grown. Cabbage, turnip greens, spinach, Swiss chard, mustard and kale, were also popular. Plans for the 1945 Victory Garden Program are being formulated now. *No decline in numbers is anticipated.*

Heads engineering research: On December 1, Secretary Wickard announced the appointment of Arthur W. Turner to head engineering research in the Bureau of Plant Industry, Soils, and Agricultural Engineering, of which he will be assistant chief. Turner was president of the American Society of Agricultural Engineers last year and, since 1927, has handled educational work for a large farm equipment corporation. Born in Minnesota, he took his degree at Iowa State and was sometime associate professor of agricultural engineering there.

Timber-r-r-r-r!: Did you know that Forest Service timber sales brought the Treasury $12,470,450 last fiscal year? Of course, every agency doesn't have crops it can chop down and sell, but this is inspiring. Practically all the timber went to war use and, of course, it came from the National Forests, managed on a scientific sustained-use basis. Incidentally, "Cox's Woods," in the Hoosier National Forest Purchase Unit, probably contains the most valuable acre of timber in the U. S. It is in Indiana, contains 12 black walnut trees worth from $700 to $1,000 each—*but not for sale.* The entire Cox tract will be maintained for its scenic and scientific value. It contains many white oak, yellow poplar, white ash, and beech trees 26 to 55 inches in diameter, and 76 to 130 feet tall.

Extension Service reports: That Extension Director Lawrence A. Bevan of New Jersey has resigned to accept an important post with Ext. in Washington, D. C. He has been at Rutgers a decade. Here he will first aid in the formation of a New England Extension Council to plan and coordinate Ext. programs in that region. Director Wilson reveals that New England Ext. directors have made a united request for his services. Mr. Bevan will also investigate farm marketing conditions, drawing upon his extensive experience in this field.

Excuse us: But we have to use small type to get certain important announcements to you quickly. Frank Hancock is now both Farm Security Administrator and the new President of the Commodity Credit Corporation. For the time he will hold both jobs. New CCC vice presidents are Lee Marshall and G. E. Rathell, while Carl C. Farrington still carries on as vice president. Also Harry Slattery, Rural Electrification Administrator, has resigned; no succesor as yet. See item p. 1 also; more details in later issues.

Manpower: Last year the farm manpower problem was licked by farm people working longer hours, efficient use of machinery and labor, the employment of many people from towns and cities, the importation of 100,000 foreign workers as seasonal labor, and the use of 50,000 prisoners of war.

Hero: 1st Lieut. John V. Keenan, former USDA field worker in Maine, now executive officer in a mechanized cavalry reconnaissance Squadron, has been cited for gallantry in action and awarded the Silver Star medal by order of Maj. Gen. John S. Wood, Commanding the Fourth Armored Division. His heroic act took place on the Marne where Lt. Keenan personally disposed of 6 of the enemy and he and his troop later caused their withdrawal, leaving 25 dead behind.

Aid to GI Joe: Orlin J. Scoville, Farm Management Division, Bureau of Agricultural Economics, has been designated by the USDA to give service men, exservice men, veterans, and prospective veterans, personal advice about farming opportunities. *This covers the Washington, D. C., area only.* But take the hint! Go thou and do likewise in your locality. For some time an average of 33 members of the armed forces have called at the Department daily to inquire about farming.

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